A

Compleat Courſe

OF

Chymiſtry.

Containing near

Three Hundred Operations;

Several of which

Have not been Publiſh'd before.

ALSO,

The Structure of ſeveral Furnaces, with near Three Hundred Characters, which are diſpers'd in Chymical Authors; And ſuch Inſtruments and Veſſels as are neceſſary in a Compleat Elaboratory. All cut in Copper.

By George Wilſon, Chymiſt.

LONDON:

Printed for *W. Turner*, at the *Angel*, at *Lincolns-Inn* back Gate; *A. Roper*, at the *Black Boy*, and *R. Baſſet*, over againſt the *King's-Head* Tavern, both in *Fleetſtreet*, 1699.

TO THE

Right Honourable

WILLIAM

Lord Paston,

Baron of *PASTON*,

Viſcount and Earl of

Yarmouth.

My LORD,

THE *Kind Reception I have upon all Occaſions met with from your Lordſhip, Emboldens me to lay the following Papers at your Feet; not*

that I pretend to offer any thing worth your Lordships Favour, your thorough Experience into, and Exquisite Skill in whatever relates to Chymistry, *makes me too Conscious to my self how little this deserves your Patronage and Protection.*

But since I have no other way left me of acknowledging the many Obligations I lye under to your Lordship, I rather choose to run the hazard of my Reputation on this account, then pass off the Stage with the Guilt of Ingratitude upon me, who must ever attribute all I now enjoy at Home to the Care and Goodness of your Lordship.

Accept then my Lord, I beseech you, the Sincere, though

weak Endeavours of my Declining Years, and judge not my Reſpect and Duty by the meanneſs of the Performance. The Honour of your Lordſhips Approbation will Fortifie me againſt Cenſure; And however defective I may ſeem to have been, yet I have ſtill the hopes that I may by this means Incite others to greater and nobler Attempts of this kind, and put them upon a deeper Search into the more cloſe Receſſes of this ſo Uſeful, but Myſterious Art.

And here, my Lord, I cannot omit, with humble Submiſſion, Suggeſting to your Lordſhip, how happy wou'd the preſent Age be, as well as Poſterity, if ſo great a Genius as your Lordſhip wou'd pleaſe to borrow

ſome

ſome few Minutes, from your other more weighty Affairs, to Collect the Curious Obſervations you have made in Cymiſtry, *and Communicate them to the World; What might we not expect from ſuch Indefatigable Induſtry, and ſo great a Capacity! Even the Admirable* Mr. Boyle, *where he alive, might with pleaſure ſee himſelf out-done, in what was his Chiefeſt Darling and Miſtris.*

But I ſhall wave the Enlarging on this Subject, leſt by attempting to give your juſt Praiſes I ſhould leſſen that Character, which all who have the Honour to know your Lordſhip, muſt confeſs you truly deſerve.

May

May your Lordſhip enjoy a full Meaſure of Health and Honour; and may After-Ages with Admiration behold your Lordſhips Excellent Vertues ſtill ſhining forth, in a Generous and Noble Poſterity, is the Earneſt Prayer of

My LORD,

Your Lordſhips

Moſt Faithful,

Humble, and

Dutiful Servant,

George Wilſon.

TO THE READER.

I Need not Enlarge my ſelf in the Uſe of *Chymiſtry*, and the great Improvements made by it among the Affairs of Mankind; it has been done by many and better Hands; but in *Phyſick* it is of that vaſt Extent, that every *Age*, for ſome Hundreds of Years, has Adminiſtred to its Growth; and with that Succeſs, that there are few *Simples* of Note, in any of the Kingdoms, whether *Mineral*, *Vegetable*, or *Animal*, but have received ſome Advantage by it: The common Approbation of the Learned has not only render'd it unqueſtionable, but its Uſe has made it one of the chief Props of *Phyſick*; and without doubt it is capable of being more Im-

Improv'd, and will be in ſo Capacious a Subject as Nature it ſelf.

But to the Matter in hand, I freely acknowledge the Collection I have made is not New, nor can I ſay I deſign'd it, being always perſuaded it was the beſt way to place thoſe ſeveral Proceſſes I have added out of my own Store, under ſuch General Heads they naturally belong'd to, in ſuch manner that it might make up an intire or compleat *Body of Chymiſtry.*

As for the Proceſſes which are not mine, but have been Extant before, I have made uſe of them as things neceſſary to my Deſign, but with ſome Improvement; becauſe I have joyn'd new Obſervations about the way and manner of working them, which I have found not only convenient, but ſometimes abſolutely neceſſary, by the Experience of near Fourty Years, wherein I have been a Diligent Operator in Chymiſtry.

I have divided the whole into Two Courſes, as may be ſeen at the end of this Book, to ſave ſuch Gentlemen as are Curious in Natural Philoſophy, the Writing or Tranſcribing Proceſſes. I have very much Enlarged the Courſes, and have ſo order'd it, that the whole may be Finiſh'd in the ſpace of one Year.

I have all along ſtudied Brevity, and therefore have rejected thoſe things which are frivolous, or of little Uſe: And my Anſwer to them who find Fault with the Stile is, Perſpicuity was more my Endeavour than Ornament; thinking it ſufficient in Matters of this Nature, if I can be underſtood without any difficulty.

I ſhall ſay nothing of the Proceſſes I have annexed, but leave them to the Publick; only taking notice, That I have briefly given the *Properperties*, *Uſe* and *Doſe* of each Medicine, that there might be nothing wanting to render it Compleat.

THE

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There are several Errata's escaped the Press, those which corrupt the Sense are as follow.

Page 9. line 10. read *and* for *is*, p. 13. l. 1. r. *pown'd* for *pour*, p. 42 *the Process is misplac'd, and should have come in after the Third.* p. 64. l. 4. r. *Copper* for *Powder*, p. 66. *penult.* add *put*, p. 103. l. 13. add *half*, p. 105. l. ult. r. *half a Drachm*, p. 271. l. 9. dele *both.*

The

The Introduction.

AS in all Arts and Sciences whatever, there are certain Inſtruments and Terms of Art neceſſary to be known, before they can poſſibly be underſtood, ſo in *Chymiſtry* there are certain Requiſites to every Operation before it can be performed, and theſe are,

Firſt, An Elaboratory, in the Erecting of which care ought to be taken that there be a good Light, plenty of Water, and large Chimneys, for the ready Conveyance of Obnoxious Fumes.

Secondly, Inſtruments and Veſſels, and theſe are of different ſorts, and various Figures, according to their ſeveral uſes: you will find the Deſcription of thoſe moſt in uſe, in the firſt Cutt of this Book.

Thirdly, Furnaces, which are alſo of different Forms, ſome for moiſt, and others for dry Heats: the moiſt are *Bal. Maris*, *Bal. Vaporoſ. &c.* The dry are the Sand Furnaces, Reverberatories, or open Furnaces for naked Fire, *&c.* which may be ſeen at large in Chymical Authors. But I content my ſelf with deſcribing

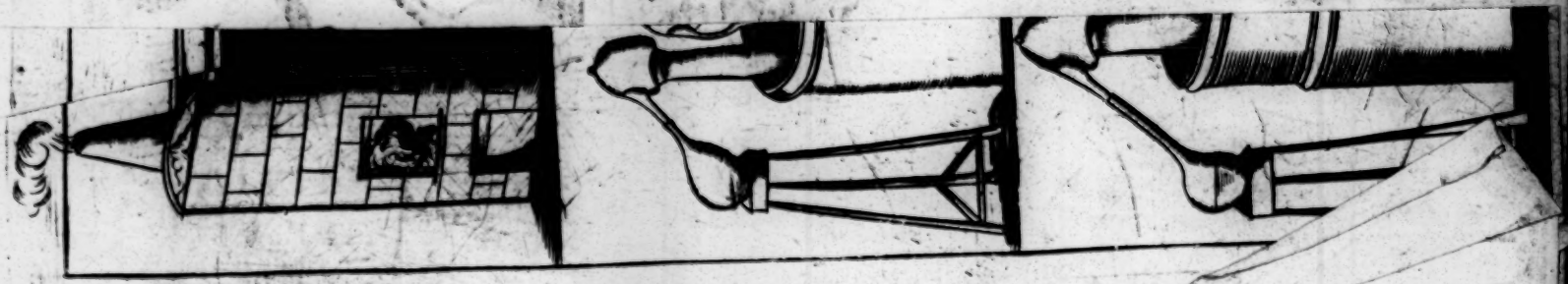
scribing those that are necessary; they are in the Plates properly plac'd in this Treatise.

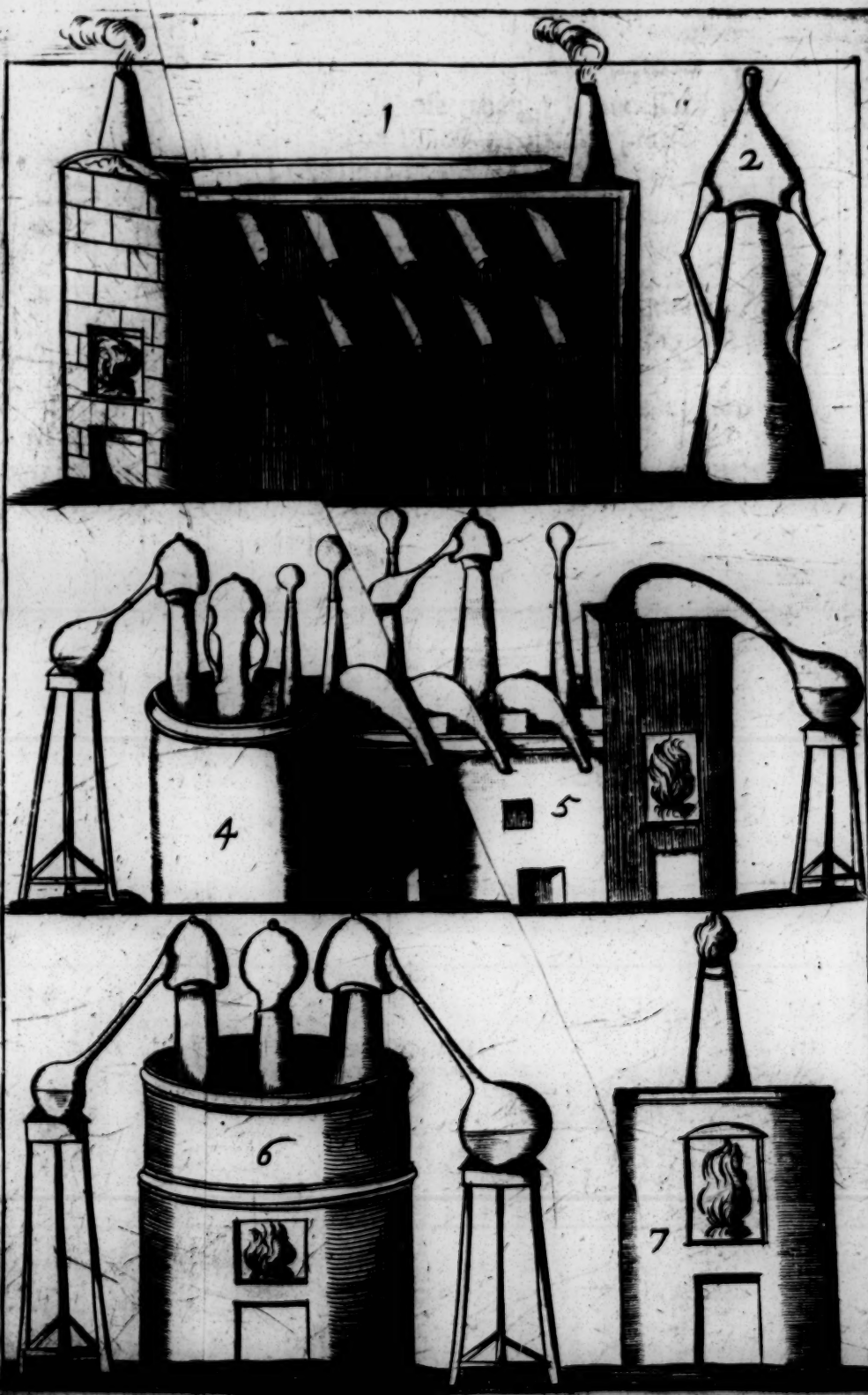
Fourthly, Lutes.

Fifthly, Degrees of Fire.

Sixthly, Such Terms of Art as you will meet with in Chymical Authors; And,

Seventhly, Such Characters as are dispers'd in their Writings.

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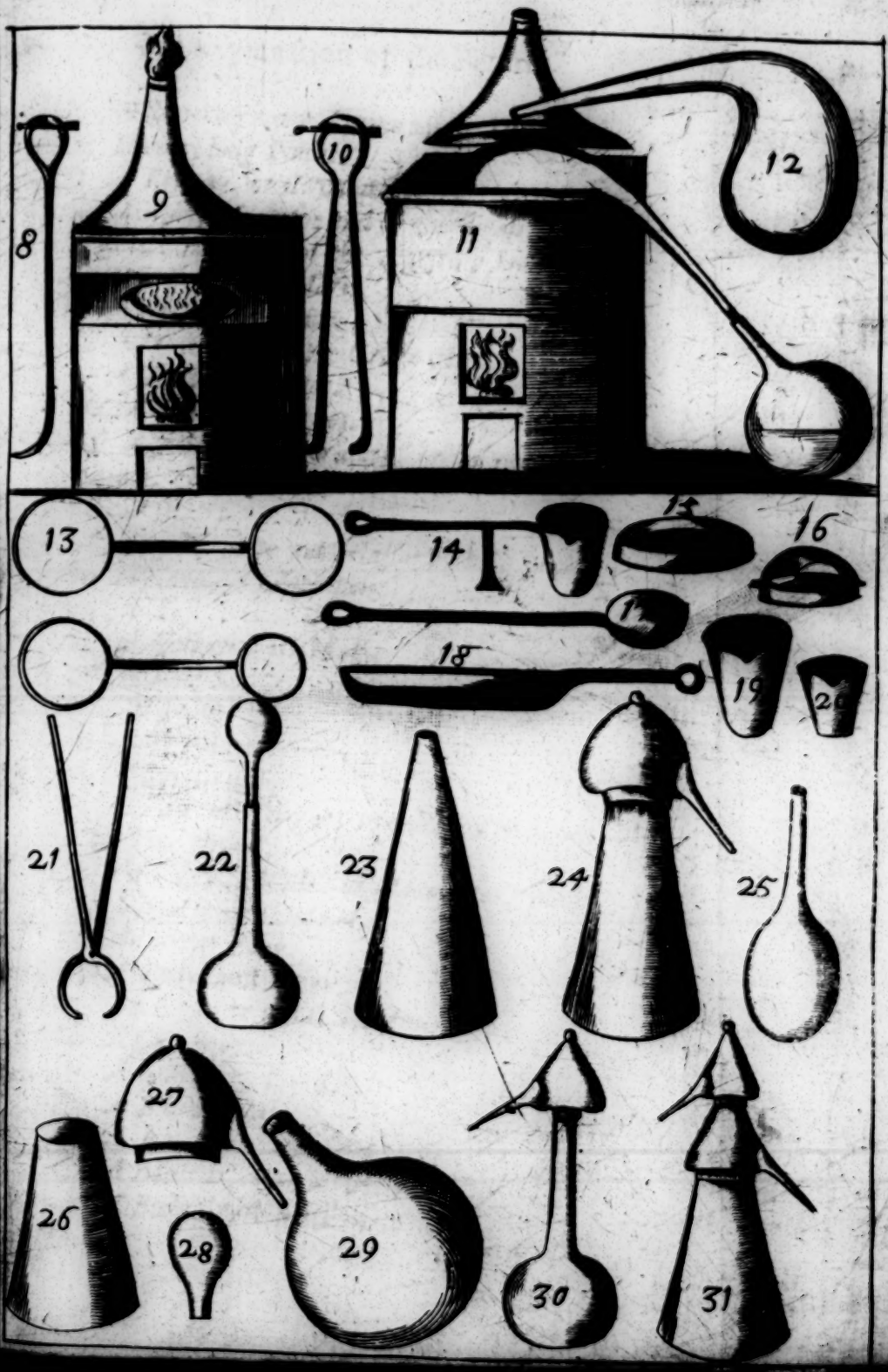
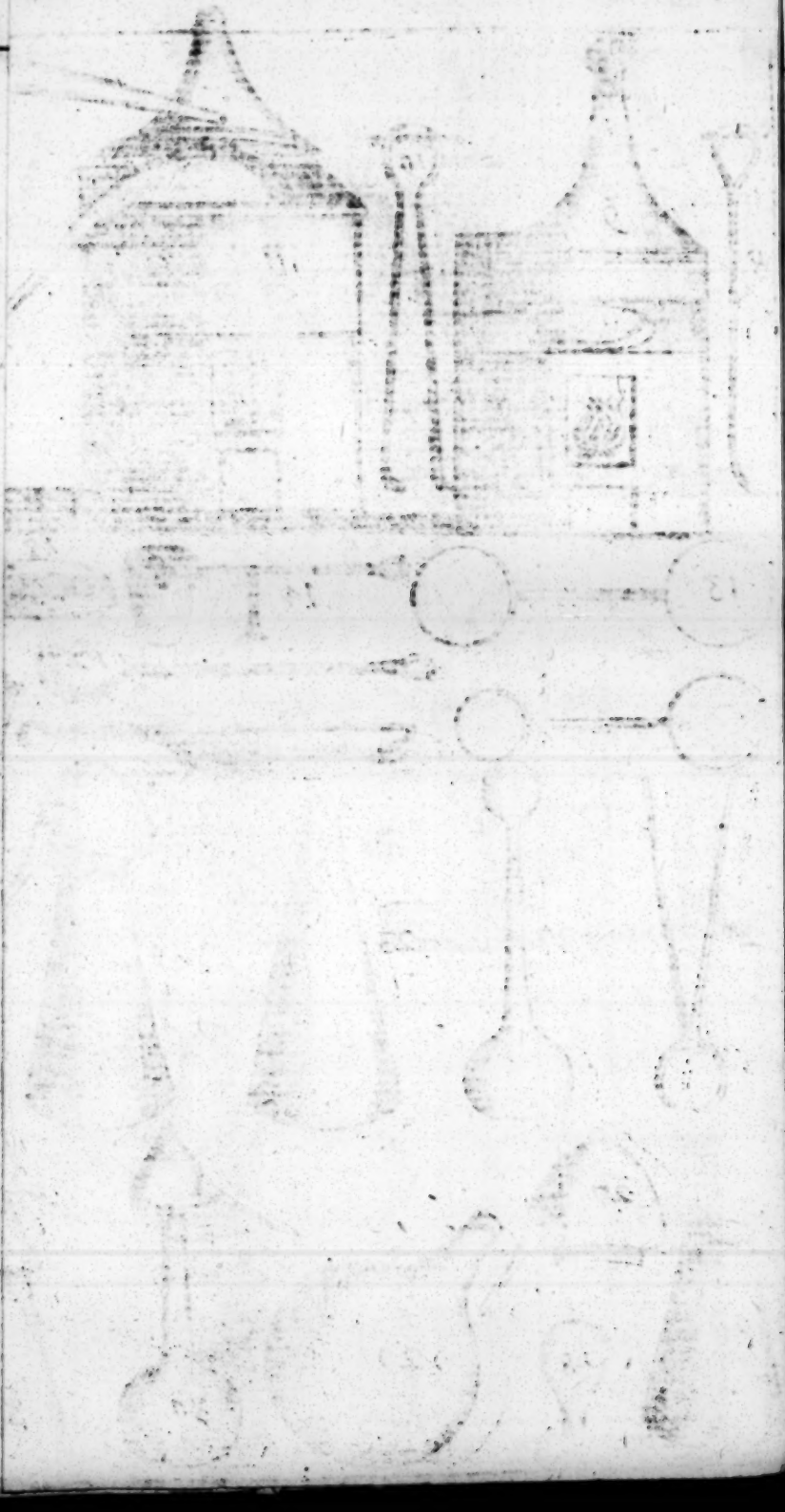
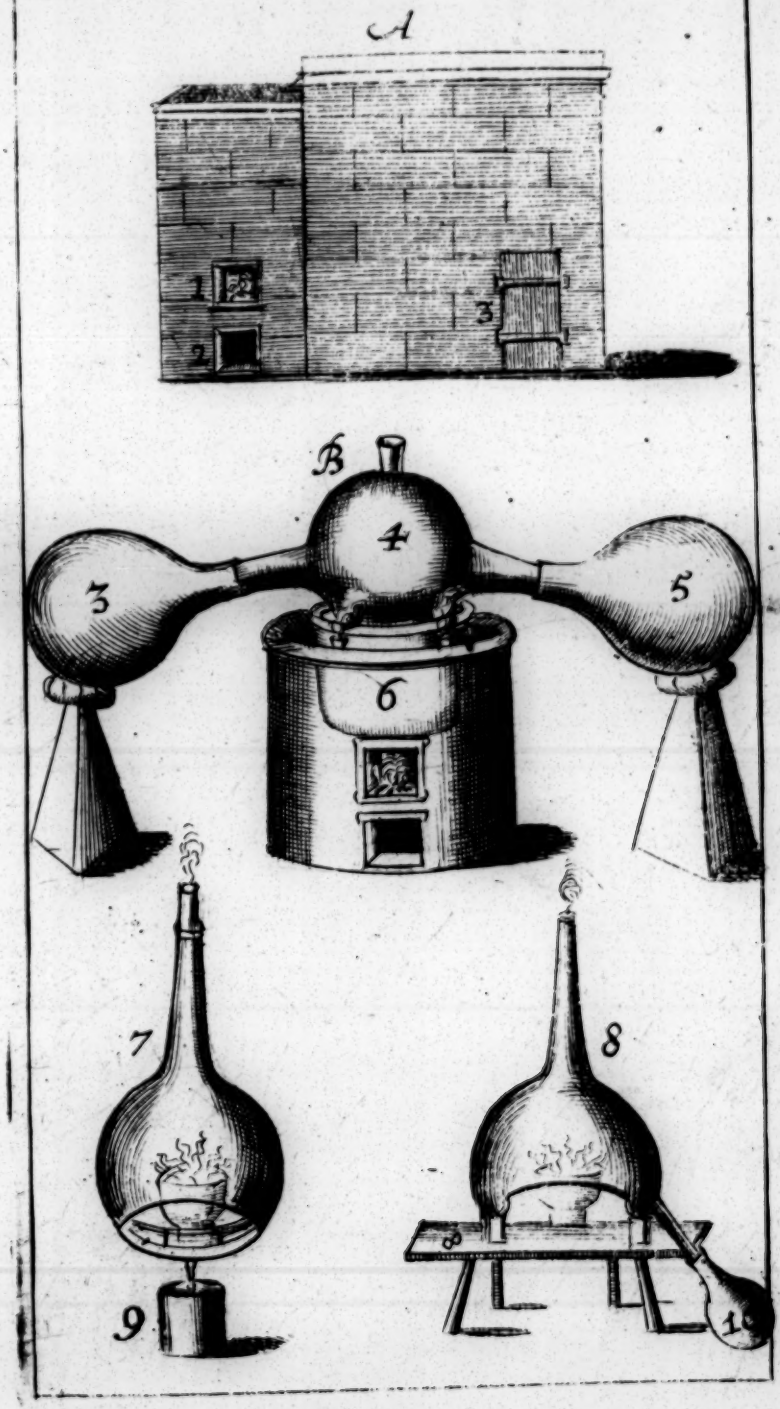
Introduction





The Explanation of the Figures.

1 *A Reverboratory Furnace, to Diſtil with twenty long Necks.*
2 *A Pelican, or Circulatory.*
4 *A Balneum at the end of the digeſt. Furn.*
5 *The Sand Bath of the digeſting Furnace.*
6 *The Balneum Maris.*
7 *A melting Furnace.*
8 *A Hook to clear the Grate with.*
9 *A Teſting Furnace.*
10 *A Pair of Tongues.*
11 *A ſmall Reverboratory, or an open Furnace, for one Retort.*
12 *A Retort.*
13 *Iron Rings to cut Glaſſes withal.*
14 *A Cone, or Antimonial Horn.*
15 *A Teſt.*
16 *A Teſt with its Muffle.*
17 *A Ladle.*
18 *An Ingot.*
19 *A Crucible.*
20 *A leſs Crucible.*
21 *A Pair of Tongues to take a Pot out of the Fire withal.*
22 *Two Bolt Heads, or Matraſſes, made a Circulating Glaſs of.*
23 *An uncut Body.*
24 *A Body and Head.*
25 *An Egg, or Oval Matras.*
26 *A Cut Body.*
27 *A Diſtilling Head.*
28 *A Blind Head.*
29 *A Ballon, or Receiver.*
30 *A Matras, with its Head.*
31 *A Body, with a double Head.*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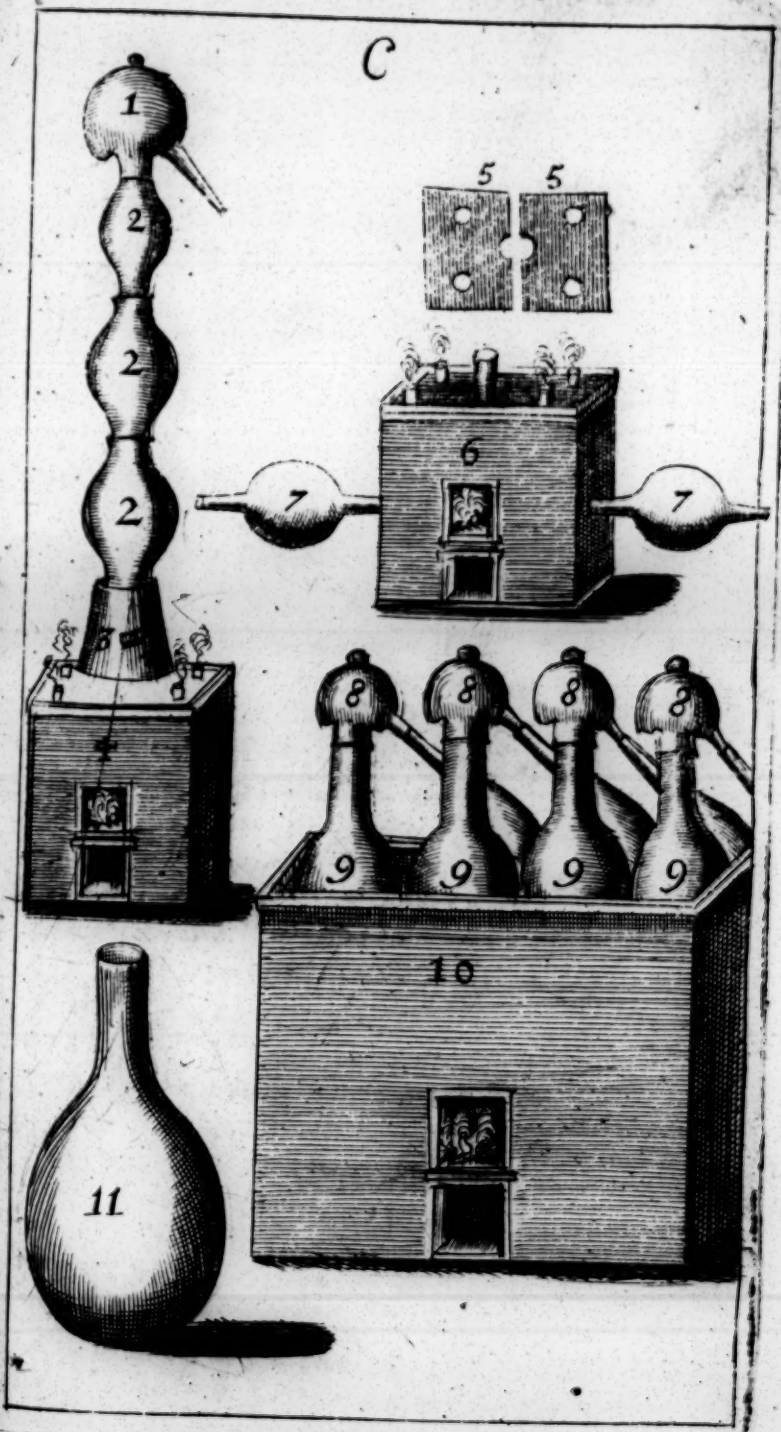
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The Explanation of the Figures.

A *The great Furnace, in which the Flower of Brimſtone is Sublimed in great quantity.*
1 *The Fire-Place.*
2 *The Aſh-Hole.*
3 *The Door into the Body of the Furnace, by which the Flowers are taken out.*

B *The little Furnace in which Flower of Sulphur is Sublim'd in ſmall quantity.*
4 *The Head, made of Earth or Iron.*
5 5 *The two Ballons, or Receivers.*
6 *The Veſſel which contains the Sulphur in the Furnace.*
7 *The plain Bell-Glaſs.*
8 *The Bell with a Verge and Beak.*
9 *The Receiver to the plain Bell.*
10 *The Receiver to the verged Bell.*

C *The ſecond Plate of Subliming Furnaces.*
1 *The Head of the Aludels.*
2 2 2 *The three Aludels.*
3 *The Body, in which the Matter that is to be Sublimed, is projected into.*
4 *The Body of the Furnace.*
5 5 *The Covers of the Top of the other Subliming Furnace.*
6 *The Body of the other Subliming Furnace.*
7 7 *The Aludels, to which more Receivers may be adapted.*
8 8 8 8 *The Heads of the Veſſels wherein the Mercury Sublimate is made in great quantity.*
9 9 9 9 *The Subliming Veſſels ſet in the Furnace.*
10 *The Body of the Furnace.*
11 *The Subliming Veſſel out of the Furnace.*

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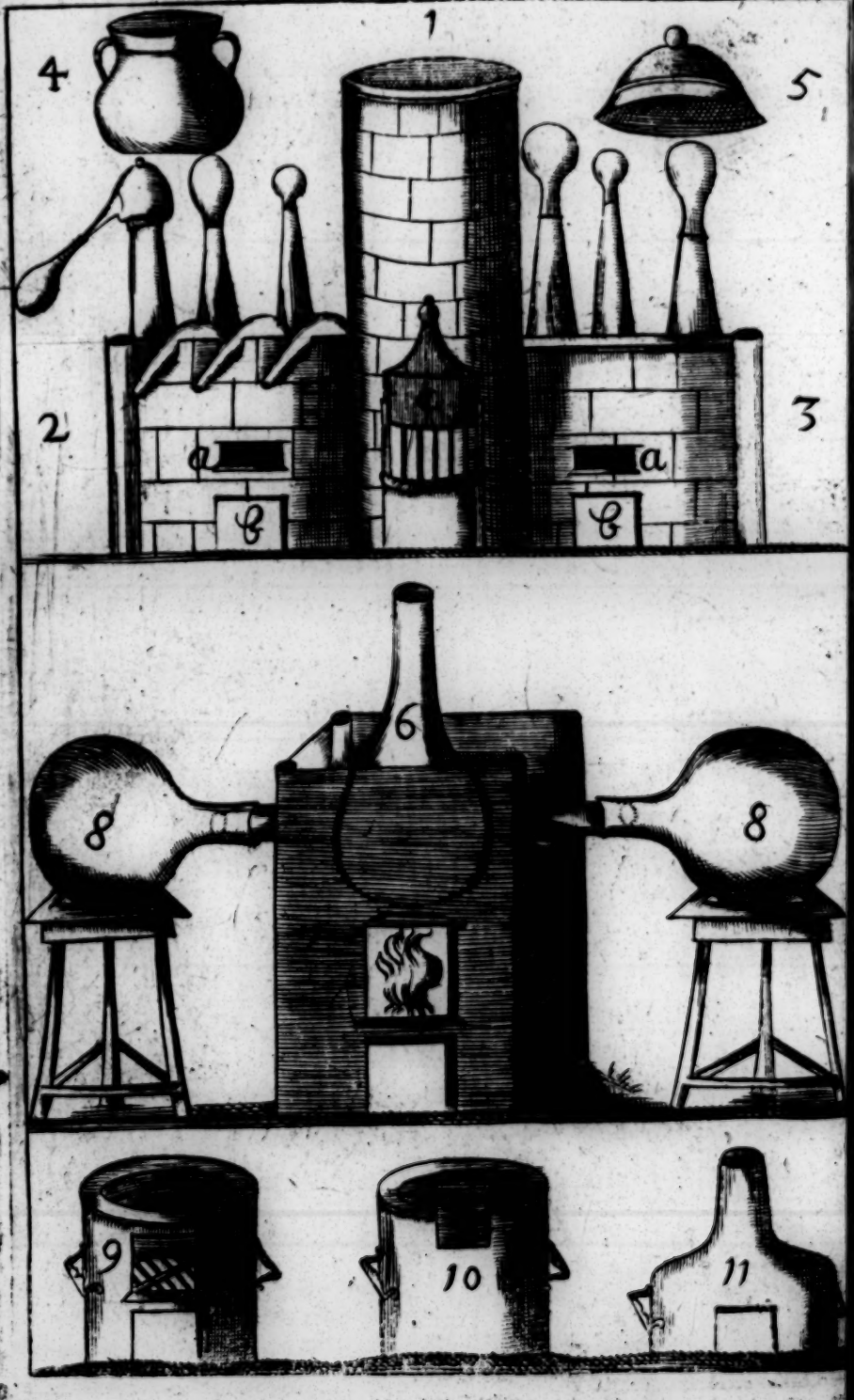
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The Explanation of the Figures.

1 *The Tower of the Athanor.*
2 *The dry Bath of the Athanor.*
3 *The moiſt Bath of the Athanor.*
4 *A little Pot to place on the top of the Tower, wherein you may Boil, or Stew any thing at your pleaſure.*
5 *The Cover of the Tower when the Pot is removed.*
a a *The Holes by which you may cleanſe the Flue when there is occaſion.*
b b *The Ovens, wherein you may Bake Puddings, Cuſtards, Apples,* &c. *in which you may alſo Hatch Chickens.*
c *An Iron Door to ſlip up and down, as occaſion requires, when you would Roſt a bit of Meat pull it up.*

The Furnace call'd an *Athanor*, was invented to keep a conſtant Heat for Fourteen Days, a Month, Twelve Months, or more, as ſome Chymical Operations require, which may be augmented or decreaſed, by opening or ſhutting the Regiſters, as you pleaſe, and according to the Magnitude of the Tower, requires no Attendance above once in twenty four, fourty eight, or one hundred Hours.

6 *The Neck of the Veſſel which contains the Matter you deſign to Diſtil, or Sublime.*
7 *The Body of the Furnace.*
8 8 *The Ballons or Receivers.*

This

This Furnace is to Diſtil any Cumbuſtible Compoſition of Nitre, Sulphur, Antimony, *&c.* by Projecting a little at a time into *Fig.* 6. and preſently ſtopping the Orifice with a fit Stopple.

9 *The lower Part of the Furnace from the Aſh-hole, to the upper Part of the Fire-hole.*

10 *The middle Part of the Furnace which contains the Diſtilling Veſſel.*

11 *The Dome, or upper Part of the Furnace.*

This is a Portable Furnace, eaſily removed, in which you may Melt, or Diſtil in Balneo, Sand, or naked Fire, as you pleaſe to order it. The out-ſide of the Furnace may be made of Copper or Iron, and it may be Lin'd with a Lute, or Fire-ſtone.

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The Explanation of the Figures.

1 *The Head, of Copper or Pewter.*
2 *The Copper-Still.*
3 *The Body of the Furnace.*
4 *The Tub, or Refrigeratory, which contains the Worm and Water.*
5 *The Supporter of the Tub.*
6 *A Veſſel of Glaſs or Pewter, call'd a Spout Receiver.*
7 *A Glaſs Funnel.*
8 *A Separating Glaſs.*
9 *Another Separating Glaſs with a Tap.*
10 *A Glaſs Spout Receiver.*
11 *The Body of the Balneum, to fit into the Mouth of the Copper-Still.*
12 *The upper Part of the Balneum.*
13 *The Head of the Balneum, with its Bucket, or Refrigeratory.*

Chymical Charact.rs

Not.s of Metalls

Saturn Leade	♄
Jupiter	♃
Mars Iron	♂ ♀
Sol. Gold	☉
Venus, Coper	♀
Mercury Quicksilv.r	☿
Luna Silver	☽ ☾

Not.s of y.e 12 Signes of the Heavens

Aries	♈
Taurus	♉
Gemini	♊ ♊
Cancer	♋
Leo	♌
Virgo	♍
Scorpio	♏
Sagitari	♐
Libra	♎ ♎
Aquary	♒
Capricorn	♑
Pisus	♓

Not.s of y.e 4 Element.s

Fire	△
Ayre	⚠
Water	▽
Earth	⚠

Chymical Charact.rs

Day	☉
Night	☽

Not.s of Mineralls & other Chymicall thing.s

Antimony	♁ ◇ ◇
Arsenick	○-○ ☍
Auripigmentu:	○□ ⚌
Allum	○ ⌂ ⌂
Aurichalcum	☍ ◇ ◇
Amalgama	aaa # ⚠
Aqua Vitæ	☍
Aq: Fortis	AF ▽
Aq: Regis	AR
Borax	A ⚌ W ⚌
Balneum Mariæ	MB
Balneu: Vaporis	VB
Brick	□
Black Sulpher	♁ ♁ ♁
Blew Vitriol	⊕+
Crocus Martis	♁ ♂
Crocus Veneris	⊕ ☾ ☍ ♀ ♀
Cinaber	♁ ♁ ♁ ♁ ♁
Caput Mortuu:	☉ ☉
Comon Salt	⊖ ⊕ ♁ ♁ ♁
Crystal	♀
Coagulate	H̄ Ē
Crucibl	▽ ▽ ⊔ + ⊔
Cerus	♄ ♄ ♄

Beginning

Chymical Charact.rs	Chymical Charat.rs
Distild Vineger	Salt of Cali
Distill	Sulphur
Flowers of Antimo.ny	Sulph: Philosoph:
Flowers of Tiles	Sp.t of wine
Filings of Steele	Spiritt
Gravelled or Pott ashes	Sulphu: Vivu:
Gummi	Soape
Glass	To Purifie
Lime	Tartar
Light, or day	Tutia
Litharge	Talk
Lutu: Sapientu:	To Calcine
Mercuri of Saturn	To Digest
Marcasite	To fix
Niter	To Sublime
Night	To Precipitate
Oyle	Verdigrease
Orpiment	Vitriol
Pouder of Bricks	Vrin
Philosophers Sulp:	Vineger
Quintessence	Wax
Quick Lime	Wine
Realgar	Whit Vitriol
Retort	Wheele Fire
Sublimat Mercur	
Sand	
Stratu Super Stratu:	
Salgem	
Sal Armoniack	

Beginning

Chymicall		Characters	
Alembeck	⚹	Soape weede	~
Ashes	E	To Lute	N
A Covered Pott	⚲	Pott ashes	♆
Cement	♃	To Filtrate	♃
Ink	⌖	To Purifie	♌
Month	♎	Magnet	♌
Powder	♄	Mercur Præup:	☿
Harts horn	C C	Sp^t: of Hartsho^rn	C C
Houre	♉	Bole Armo	AB
Bez Mineral	♌	Tincture	T
Limbeck	⚹		

Medicinall		Characters	
Lib: a pound	Lib.	a hand full	M:
an ounce	℥	a Pugil	P:
a Drachm	ʒ.	a half Quantity	ss,
a Scruple	℈,	a part	p
a graine	gr,	Number	N°:
		of Each	ãa,

A Compleat Courſe OF Chymiſtry.

Of LUTES.

To Defend a Glaſs in a naked Fire.

TAKE *Yarmouth*-Sand, Scoria of Iron, Tobacco-Pipe-Clay, of each one Pound, Glaſs, and fixt Nitre, of each four Ounces, of courſe Tow, cut ſhort, half a Pound; diſſolve the Tobacco-Pipe-Clay in Water, and beat the Glaſs and Scales of Iron to fine Powder; then mix all togethet, beat and work this mixture well, 'till it comes into a ſtiff Paſte; ſpread it upon the Retort with a Knife, the thickneſs of Half a Crown, to the middle of the Neck of it; let it dry gently, after which you may uſe it.

With this Lute you may faſten the Receivers in the Diſtillation of Coroſive Spirits, *viz.* Ol. Vitrioli, Spirit of Nitre, Spirit of common Salt, Allum, Aqua Fortis, Aqua Regis, *&c.*

To Lute Limbecks.

Take Starch, Glue, Flower, and Water boil'd, or Flower and Water well beaten together; any of theſe ſpread upon Slips of Paper will ſerve; but when you Diſtil, or Rectifie Spirit of Verdigreece, Vineger, Tartar, Guiacum, Box, ſtrong Spirit of Wine, Spirit of Sal Armoniack, or Hart's Horn, *&c.* you may uſe ſlips of Bladder, or Parchment, dipt in equal parts of Flower, and ſlack'd Lime, beaten into the Conſiſtence of a Syrup, with the Glear, or white of an Egg.

To Fortifie crack'd Glaſſes.

Take the Scrapings of hard *Suffolk*-Cheeſe, and Calx Vive, of each alike quantity, beat them well together, with the White of an Egg, to the thickneſs of a Syrup; dip Linnen Rags in this mixture, and lay it preſently upon the crack. Remember you mix no more at a time, than you uſe in the ſpace of a Minute.

To Seal a Glaſs Hermetically, is to heat the Mouth of the Glaſs gradually, 'till it is

is red hot, and pliable, which you may do either with ſuch a Lamp as the Goldſmiths uſe to Solder with, or by a clear Charcole-Fire, and with a pair of Pincers (being alſo red hot) nip it up ſo cloſe, that no Air can paſs in, or out.

There are many other Lutes, but theſe are ſufficient to carry on any Chymical Operation.

Of the Degrees of Fire.

THE ſeveral Heats requir'd in Chymical Operations are as follow.

Balneum Mariæ, is warm or hot Water. *Balneum Vaporoſum*, is the Steam or Vapour of Water. The *Heat* of *Aſhes*, is ſifted Aſhes. The *Heat* of *Sand* is Sifted Sand. There is alſo an Heat of Filings of Iron, *A Reverberating Heat*, or naked Fire. And laſtly, a *Melting Fire*. The *Water*, *Aſhes*, *Sand*, and *Filings* of *Iron*, are contain'd in proper Veſſels, made of Copper or Iron, and placed in Furnaces. The *Reverberating*, or *open Fire*, is made in the Furnace we call a *Reverboratory*, or open Furnace.

All theſe Heats have their *Firſt*, *Second*, *Third*, and *Fourth Degrees* of *Fire*.

The *Firſt Degree*, is a handful of ſmall Cole, or three or four Charcole, of the

thickneſs of a Man's Finger, well kindled.

The *Second Degree*, is ſix or ſeven ſuch Charcole kindled.

The *Third Degree*, is ſuch a one as will make the Fire-place of the Furnace, of a Worm red.

The *Fourth Degree*, is ſuch as will cauſe the Fire-place of the Furnace to be of a white Heat, or the moſt extream Fire you can make.

Of *Dry Heats*, *Aſhes* is weakeſt, *Sand* ſtronger than *Aſhes*, and *Filings* of *Iron*, ſtronger than *Sand*.

Of ſuch Terms as are uſed in Chymiſtry.

Amalgama is to mix ☿ with ☉, ☽, ♄, or ♃, which is to be done thus:

Firſt, melt the ☉, ☽, or ♄, *&c.* ſo that it may but juſt flow, then heat the ☿ till it begins to Fume; and by little and little, pour the ☿ to the melted Metal, and ſtir them about with a warm Iron Rod, 'till they are Incorporated: If you wou'd make the *Amalgama* ſo hard as to beat into a Powder, you muſt take three parts of the hard Metal, to two parts

parts of ☿: If you wou'd have it ſo ſoft as to ſpread, you muſt take two or three parts of ☿, to one part of the hard Metal.

Alcohol is to reduce any Subſtantial Matter into an Impalpable Powder; alſo, very high Rectified Spirit of Wine, is call'd *Alcohol.*

Cement, is to ſtratifie Lamels of Gold with a Paſte, made of one part Sal Armoniack, two parts common Salt, and four parts Tobacco-Pipe-Clay, or Tobacco-Pipes beaten to Powder, moiſtened with a ſufficient quantity of Urin: This is called the Royal Cement.

Coagulate, is to Evapourate a Liquid to a Subſtantial Maſs.

Circulation, is a Motion given to Liquors, contained in a double Veſſel, or Circulating Glaſs, excited by Heat to Aſcend and Deſcend.

Cohobate, is to return the Liquor which has been Diſtilled, upon the Matter remaining in the Veſſel, after Diſtillation.

Congeal, is to let a Metal, Wax, or Fat, which is melted, to fix, or cool, when taken from the Fire.

Detonation, is a Noiſe that is made when the Sulphureous Parts of any Mixture ruſh forth with Impetuoſity; its alſo call'd *Fulmination.*

Digeſtion, is ſome Matter put into a Menſtruum, to infuſe in a gentle Heat.

Distillation per Ascensum, is when the Fire is made under that which is to be Distilled.

Distillation per Descensum, is when the Matter which is to be Distilled, is plac'd under the Fire, by which the Spirits are Precipitated and Forc'd down-wards.

Dissolution, is to reduce any hard Body into a Liquor, by the help of a proper Menstruum.

Edulcorate, is to sweeten, or make insipid, some Matter which is Impregnated with Salts, by washing it with Distilled, or Fountain-Water.

Effervescency, is the Ebullition of a Liquor by boyling; or when two Liquors of a contrary Nature are put together, which cause Ebullition without separating the parts.

Fermentation, is an Ebullition raised by Spirits that endeavour to separate themselves from the Body, but meeting with Earthy Parts that oppose their Passage, they swell, and rarifie the Liquor 'till they find their way out: In this Separation of Parts, the Spirits divide in such a manner, as to make the Matter of another Nature than it was before.

Filtration, is to purifie a Liquor by passing it through a brown Paper; or lay stripes of Cotton or Woollen in the Vessel which contains the foul Water, to the middle of the stripes, the other end hanging

hanging over the Vessel, which receives the filtred Liquor.

Fumigation, is to make one thing receive the Fume of another.

Granulation, is to pour a melted Metal through a new Birch Broom, or Brass or Iron Culender, into cold Water.

Levigation, is to grind any hard Matter into an impalpable Powder upon a Marble.

Menstruum, is any Liquor capable of dissolving Mettals, Minerals, Gums, or any other hard Substance into a Liquor.

Mortification, is to change the outward Form of a Mixture, as ☿, *&c.* Also Spirits being mixt with other things which deprive them of their Strength.

Putrefaction, is the Corruption of any mixt Body, whether by the Air, or other Mixtures, and which always emitts a smell different from the Body before it was Corrupted.

Projection, is to put into a hot Crucible, by little and little, any Matter. Also to put a small quantity of something, to a greater quantity of a Mettal, to Meliorate the Mettal.

Rectification, is to Distil Spirits after their first Distillation, in order to separate from them such Heterogenous Matters as have risen with them in their first Distillation.

Reverberation, is to make the Flames of the Fire beat upon the Matter which is Reverberated.

Revivification, is to reduce any Preparation of ☿, into its Form again.

Sublimation, is to elevate any Volatile Matter, into the upper part of such Vessels as contain them, by heat of Fire.

Stratification, is to lay two different things, bed upon bed, or lay upon lay, one over another.

Præcipitation, is to make any Matter dissolved, fall to the bottom of the Vessel, by putting something into the Dissolution, which is more agreeable to the Menstruum.

The Principles of Minerals in the Mines,

(Not to say any thing of the Universal First Matter of Things, not Specificate) are *Argent Vive*, and *Sulphur*; out of these Two are all Metals Generated, and all *Mercurial Minerals*, of which there are many and divers Species, and by the endeavours of Nature, all tending to the Perfection of *Gold*, but by different Accidents hindred, or at least retarded, in their attaining to the intended Perfection, for according to the Purity, or Impurity of these Two, are different Metals produced.

CHAP.

CHAP. I.

Of GOLD.

GOLD, the Purest of all Metals, is by Nature Generated of a most Pure Fixed ☿, and a small quantity of clean fix'd Sulphur, of most pure Redness, which tingeth the ☿ : That it is most Mercurial, appears by its easie Conjunction with, and Reception of pure ☿ ; that this ☿ is Fixed, and clear from all Operations upon it by Fire ; that the Sulphur of it is tinging, is manifest by this, That joyned rightly with pure ☿, it transforms, or changeth its Colour, into a most pure Red ; that it hath greater quantity of ☿ than Sulphur, is clear from its ready admission, and reception of ☿.

It is a most Noble Subject for Medicine, in the hands of an Expert Artist; witness Dr. *Anthony*'s *Aurum Potabile.*

Purification of Gold.

Put one Ounce of *Gold* into a Crucible ; when it is red hot, put to it Reg. Antimony three Ounces; let them melt together in a strong Fire, 'till little sparkles fly about in the Crucible, then cast out

out the Golden Reg. into a little Cone, or let it stand in the Crucible till it is cold; then beat off the Scoria, and put the Reg. into a Crucible, and set it again in the Furnace to melt; when it is in Fusion, cast upon it two Drams of Salt Peter, and a quarter of an Hour after that, cast two Drams more of Salt Peter, and so do the third time, still keeping it melting, 'till you perceive it emits no Fumes, then pour it into an Ingot, and beat the Scoria off from the Gold. It is then perfectly Fine, and fit for any Operation.

There are other Purifications of *Gold*, *viz. per* Cupel, Cement, *&c.* but this is the best.

Amalgamation of Gold.

Take of Fine Gold half an Ounce, beat it into thin Plates, heat them red hot in a Crucible, put to it of clean ☿ (first made hot in a Crucible) two Ounces, and stir them about together with a hot Iron Rod till they grow cool; then wash them in a Stone Mortar, with clean Salt and warm Water, till the *Amalgama* will emit no blackness; this done, it is pure: But if it be too soft for your purpose, you may squeeze some ☿ from it, through a Diaper Cloth.

If

If you would reduce the *Gold* into an Impalpable Powder, put the Amalgama into an unglaz'd Diſh or Poringer, place it over a gentle Fire, and the ☿ will aſcend in a Fume, and leave the Gold in an Impalpable Powder.

Aurum Fulminans.

Take what quantity of *Gold* you pleaſe, in thin plates, File duſt, or ſmall Granules, put it in a ſeparating Glaſs, or any other convenient one; pour upon it, by little at a time, four times its quantity of *Aqua Regis*, or Spirit of Nitre, Bezoardick; place the Glaſs on warm Sand, and let it there continue till all the *Gold* is diſſolved; then put the Diſſolution into five or ſix times its weight of clean Water, mix them well by ſhaking, then drop to the Solution Oil of Tartar, *per deliquiem*, or Spirit of Sal Armoniack, made with Salt of Tartar, or Pot-Aſhes, till the Ebullition is over, then let it ſtand ten or twelve Hours, for the *Gold* to precipitate, and then pour off the Water by gentle Inclination; waſh it with ſeveral clean Waters, till the Golden Calx is inſipid; dry it in a gentle Heat, between clean Paper, and keep for uſe.

Its Operation is Diaphoretick.

Its Doſe from five to twenty five Gr. given in Peſtilential Fevers, and Small-Pox, with good Succeſs, and is often given to thoſe who have too much ☿ in them.

N. B. That you be careful in drying of it, leſt it take Fire.

Aurum Potabile, as I Prepared it for the Chief Phyſician of a Great Prince, 1692.

I Diſſolved four Ounces of *Gold* (purified as before) in one Pound of Bezoart. Spirit of Nitre, and drew the Spirit from the Gold in a Heat of Sand, return'd the ſame Spirit upon the *Gold*, and Diſtill'd it off again. I made the Second Cohobation with the ſame Spirit, as alſo the Third, Fourth, and Fifth Cohobation, with one Pound of New Spirit of Nitre Bezoart. And likewiſe the Sixth, Seventh and Eighth Cohobation, with one Pound more of New Bezoart. Spirit of Nitre.

Whilſt I was doing this, I made the Oil of Chalk thus: I took half a Pound of clean Chalk, ſcrap'd it, and dry'd it before the Fire in an Earthen Diſh, then put

put it into a Cucurbit, and pour upon it, by little and little, one Pound and half of Spirit of Nitre, which dissolved the greater part of the Chalk. I Filtred the Dissolution, put it into a Retort, and Distill'd it in Sand; that which Distill'd from it came off almost Insipid; I dissolv'd that which remain'd in the Retort, in part of the Flegm which I drew off from it; it set new Feces; I Filter'd the Dissolution again, and Filter'd, and Exsiccated, as before; I dissolv'd it again in the Flegm which came off, it then totally dissolv'd, without any Feces; I Exsiccated it again, and mix'd of it, and the aforesaid Calx of *Gold*, *ana*, and ground them extreamly well together in a clean Marble Mortar, with a Glass Pestle.

I then divided the whole Matter into equal parts, and with one Part I ground double its weight of purified Salt Peter, and with the other part treble its weight of Sal Armoniack Sublimed twice, and equal its weight of *Stellate Regulus Martis*, in subtil Powder; each Parcel being well mixt by a long Trituration; I put this Mixture in a Retort; placed it in a Sand Furnace, made gradual Fire under it for eight Hours, and kept it two Hours longer in the most extream degree of Fire; the Sal Armoniack rose into the neck of the Retort, so much Impregnated with the

the Sulphur of Gold, that it was as red as Blood.

The other Mixture of Golden Calx and Nitre, I put into a red hot Crucible, by a quarter of a Spoonful at a time, ceaſing one Minute between each Projection; when all was in, I gave it a ſtrong melting Fire for three Hours, and before it was cold, made it into Powder in a clean, warm, Iron Mortar, and put it preſently into a clean and dry Cucurbit, and put ſo much highly Rectified Tartaris'd Spirit of Wine upon it, as to appear four Fingers above the Mixture, then inverted another Glaſs into the Mouth of the Cucurbit, to make it a Circulating Veſſel, and let it ſtand in a ſimmering Heat for twenty four Hours, in which time the Spirit of Wine was well tinged, I decanted it, and put on more Spirit of Wine, and let it ſtand twenty four Hours in the ſame manner as before, and ſo did the third time, but then it took but little Tincture.

I ordered the Sublimed and Impregnated Sal Armoniack, with Spirit of Wine, as I did the other; I put the Tinctures of each parcel apart, into Cucurbits, adapted Heads and Receivers to them, and in a gentle Heat drew off the Spirit of Wine, not leaving above eight Ounces in each Glaſs, both the Tinctures were deeply tinged, of which I gave a part to the Gentleman that Imployed me, who ſeem'd

to

to receive them with great Satisfaction, and Gratified me generously.

The Operation of both the Tinctures are Diaphoretick, and esteem'd great Cordials.

Their Dose from five to twenty five, or thirty Drops, in a Glass of Spanish, or French Wine, or any other Vehicle, even to Water.

They are good in *Cachexies*, *Consumptions*, all sorts of *Fevers*, and to such whose Bodies have been over-charged with *Mercurials*.

N. B. The several Cohobations are to Subtilize the *Gold*; the Calcin'd and Purify'd *Chalk* is mixt with it for a Bole, which by that Purification is Subtiliz'd sufficiently to mix with the Minute Particles of the *Gold*, the better to make it give forth its *Sulphur* to the *Menstruum*. In its Fusion with the *Salt Peter*, it emits its pure *Sulphur* into the *Nitre*, the more gross part falling to the bottom in a *Regulus*.

Its being Projected into the Crucible, in so little a quantity at a time, and so leasurely, is to prevent its boyling over, which it would do by too hasty Projections.

Its being mixt with clean *Sal Armoniack*, is to cause its pure *Sulphur* to sublime, it

it being the nature of *Sal Armoniack* to carry up Metallick Sulphurs.

The Tinctures are taken each by themselves, that the Physician may use them alone, or mixt, as he pleases.

When we reduced the Gold, we had three Ounces, three Scruples, two Drams, and five Grains, of a little paler Colour than it was at our first Dissolution of it.

CHAP.

CHAP. II.

Of SILVER.

SILVER, or *Luna*, is Generated or Produced by Nature, of pure *Mercury*, and a pure clean, and fixed white Sulphur, but comes not yet up to the Purity and Fixation of Gold; as is evident by its Diminution in the Fire, as also of its Sulphur, which is neither fully fixed, nor incombustible. But though its Sulphur, compar'd with that of Gold, cannot properly be said to be fixed, yet with respect to other Metals, it may be called Fixed and Incombustible.

Preparations of Silver.

Purification by the Cupel.

SET a Cupel, made of Bone-Ashes, in a Melting Furnace; make a gradual Fire to it, till the Crucible is red hot; and to every Ounce of Silver you design to Purifie, put four Ounces of Lead. When it is melted, put in your Silver to the middle of the Test, keeping still a good Fire about it (under a

Muffle) till you see the Silver lye like a Polish'd Lump in the middle of the Test. Then let it cool, and beat it from the Test, and it is perfect, fine, and fit for any Physical Preparation.

Chrystals of Silver.

TAke of the Cupel'd Silver, what quantity you please, put it into a Separating Glass, or Cucurbit, and put to it four times its weight of good Aqua Fortis; set them in Sand, over a gentle Fire, till the Silver is dissolved, then Evaporate two Thirds of the Liquor, and set it in a cold place to shoot into Chrystals.

The Infernal Stone, or Silver Caustick.

TAke of the Chrystals of Silver one Ounce, put them in a Crucible which is capable of containing five or six times their quantity, by reason they are apt to boil and swell: You must give a very gentle Heat till the Ebullition is over, then increase the Fire a little, till the Silver sinks, and flows like Oil, and cast it into a warm greas'd Ingot; keep it in a Box, with some Cotton, in a dry place.

The Silver Pill.

DIssolve one Onnce of Refined Silver in three Ounces of Spirit of Nitre, in a Matras; Distil off all the Spirit of Nitre to dryness, then dissolve the Matter remaining, in as much Rose-water as it requires; Filter and Evaporate again to dryness. Then take two Ounces of Refined Sal Prunella, and grind it well with the Lunar Calx, in a Marble Mortar, with a Glass Pestel, and put to it again as much Rose-water, as is fit to dissolve it; Filter and Evaporate again to dryness. When it is cold, put it again into a Marble Mortar, and add two Ounces of the finest Wheat-Flower; grind them well together, with a sufficient quantity of Rose-water, to make them into Pills, of the bigness of a small Pea; when the Pills are form'd, dry them between Papers, and keep in a wooden Box for Use.

Their *Operation* is Cathartick, and Diuretick.

They are given in all Distempers of the Head; and very successfully in Dropsies.

Their *Dose* is from half a Pill, to one Pill and an half, or two Pills.

The Precipitation, and Tincture of Silver.

DIssolve one Ounce of Fine Silver, in three Ounces of Spirit of Nitre, in a Glass Vessel, plac'd upon warm Sand; when it is dissolved, put it into sixteen Ounces of Filtred Salt Brine: The Silver will precipitate in a white Powder; let it stand two Hours to settle, then pour off the Water by Inclination; wash the Lunar Calx with warm Fountain Water, till it is insipid; then dry it upon clean Paper; when it is dry, put it into a Matrass, and pour upon it twelve Ounces of Spirit of Wine, to which put half an Ounce of Volatile Salt of Urin; stop the Matrass with another Glass, fitting its Mouth; Lute the Joynt with Bladder dipt in the white of an Egg, beaten well with a little Water, then set it in a gentle Heat twelve or fifteen Days, shaking it about once in twenty four Hours; in which time it will have acquired a Sky-coloured Tincture: When cold, Un-lute the Glass, Filter the Tincture, and keep for use.

Its *Operation* is Diaphoretick, and Diuretick. It is given in *Apoplexies*, *Epilepsies*, *Palsies*, and all Distempers of the Head.

Its

Its *Doſe* is from five to twenty five, or thirty Drops, in any proper Vehicle.

The Calx remaining in the Cucurbit, may be reduced into Silver again, by mixing it with equal its weight of Charcole Duſt, and a fourth of its weight of Borax, giving them a good Fluxing Fire in a Crucible.

Diana's, *or the Philoſophical Silver Tree.*

DIſſolve one Ounce of Fine Silver, in three Ounces of Rectified Spirit of Nitre; pour the Diſſolution into a Matraſs, in which there is a Pint of Clean Fountain-Water, and two Ounces of clean Crude ☿; let the Matraſs be no bigger than to contain this quantity; cover it looſely with ſome Glaſs, to keep out the duſt, and ſet it by in ſome place where it may not be mov'd for five or ſix Weeks; in which time you will ſee an Idea, or Repreſentation, of a Tree, ſpreading forth its Branches, with little knobs at their ends, reſembling Fruit.

Another Curioſity of this Nature may be perform'd, with a Diſſolution of Silver in Spirit of Nitre, and Diſtill'd Vinegar; but neither of them being of any other Uſe, this will be ſufficient at this time.

Obſer-

Observations.

Dissolution. MAke all the Dissolutions of ☽, or any other Metal, or Mineral, with Aqua Fortis, in a Chimney, to avoid the Nitrous Fumes which are hurtful to the Head.

Purification. Lead is made use of to Separate such base Metals, as Superficially adhere to the Silver. For being full of Sulphureous Parts, it readily absorbs, and sucks up the base Metals, which also abound with foul Sulphurs, and will not permit them to enter the close Pores of the ☽.

The Test. The Test is made of Bone-Ashes, because these Ashes contain no fix'd Salt; and therefore is Porous enough to suck in the Lead, with the baser Metals, which adhered to the Superficies of the Silver.

Chrystal. The Chrystals, or Vitriol of Silver, receive their Cathartick Quality from the purify'd Sal Prunella, with which they are mix'd. For the sharp Points of the Spirit of Nitre, which adhere to the Lunar Chrystals, are blunted by the Sal Prunella, which makes them slide through the Bowels, which otherwise would Corrode them, and be as Fiery a Caustick, as the Infernal Stone.

Precipit. The Precipitated ☽ cannot be totally Separated from the Nitrous Spirits, by washing, therefore the Tincture is not

(as

(as some fancy) the pure Sulphur of ☽ Separated from its Terrestreous and Saline Parts, by the Spirit of Wine, and Salt of Urin; but it is part of the Lunar Calx, dissolv'd by the Spirit of Nitre, which sticks to the Particles of the Calx, and so Communicates that Sky-Colour to the Menstruum; for I have more than once Reduced that Tincture into Malleable Silver.

The Philosophical Tree is a Chrystallization of the dissolved Metals, which in five or six Weeks time will appear of different Forms, according as the quantity of Water, and Capaciousness of the Vessel which contains it. For, if there be too little Water, it will be a confus'd Lump of Chrystals; if too much, it will fall into a Precipitate. *Diana's Tree.*

The Dissolution of *Silver* is several ways Precipitated (*viz.*) by a Lixivious, Urinous, or common Salt, and by Plates of Copper. And again, Copper will be Precipitated by Iron; and that again by *Lapis Calaminaris*; and the *Lapis Calaminaris* will be Precipitated by a Lixivium of fix'd Nitre, or Salt of Tartar; and that Lixivium, by Evaporation, will become common Salt Peter again.

CHAP. III.

Of TIN.

TIN is a soft Metal, of a shining blue Colour, containing a Mercury something purer than other Ignoble Metals. It is more Soft and Volatile than Copper or Steel; more Fix'd than Lead, and more Crude than Silver. All its Preparations are accounted Specifick, for Diseases of the Liver and Matrix.

Purgation of Tin.

PUT what quantity of Tin you please in a little Pan of Iron; set it over the Fire, and when it begins to melt, put to it some Hog's Lard, Wax, or Honey, stir them about with a wooden, or Iron Spatula, and then cast them into hot Water; Repeat this two or three times, by which the Tin will be cleansed from some of its foul Sulphur, and made more bright and hard than it was before.

To Reduce Tin into a Powder.

MELT half a Pound in a Crucible, and pour it into a round wooden Box, cover it cloſe, and ſhake it about till it is cold; ſome part of it will be in a grey Powder, which put by; that Part which remains in Solid Metal, melt again, and put it in the Box, ſhaking it, as before. Repeat the ſame Operation, till you have as much of the Tin Pulveris'd, as you deſire.

Amalgamation of Tin.

MELT what quantity of Tin you pleaſe in a Crucible; put the ſame quantity of Mercury in another Crucible; let the Mercury ſtand in the Fire, till it begins to Crackle and Fume; then pour it out to the melted Tin, and ſtir them about with a ſmall Iron Rod, till they are cold. If you wou'd have the *Amalgama* ſo hard as to beat into Powder, one Part of Mercury will be enough for two Parts of Tin; but if you wou'd have it ſoft, you may put two Parts of Mercury to one Part of Tin.

Calcination of Tin.

PUT what quantity you pleaſe of Tin in an Iron Dripping-Pan, Place it in a Reverberating Oven, and make ſuch a Fire, as to keep it melting red hot, every now and then ſtirring of it with an Iron Spatula, full of holes, the better to break the Tin, and forward its Calcination; this you may continue till you have a ſufficient Quantity for your uſe.

Salt of Tin.

TAke what quantity you pleaſe of the aforeſaid Calcin'd Tin, and Reverberate it yet two or three Hours longer, ſtirring it all the time, 'till it becomes more white than it was in the Firſt Calcination; then put it into a Pewter, or Glaſs Veſſel, and to each Pound of the Calx of Tin, put ten Pound of Diſtill'd Vinegar; let them ſtand (now and then ſtirring them about) in a ſmall Heat of Sand, till the Vinegar has acquired a ſweet Taſte; then Decant, and Filter the Liquor, and ſet it to Evaporate in a Pewter Baſon, and when you ſee a Film appear upon the Surface of the Liquor, pour it into a Glaſs Funnel (the Hole of it being ſtopt with a Cork) and ſet

ſet it in a cold place to ſhoot into Salt; you may Evapourate and Chryſtallize the remaining Liquor after the ſame manner.

Sublimation of Tin.

MIX one part of Tin with two Parts of clean Sal Armoniack; both being made into Fine Powder, and well mix'd, put them into an Earthen Cucurbit, which will endure the Fire; but above two Thirds muſt remain empty: Place it upon an Iron Bar, in an open Furnace, which muſt be ſet nine or ten Inches above the Grate; and a third part of the Cucurbit remain above the top of the Furnace: Incloſe the lower part of the Cucurbit with Tiles and Lute, leaving three or four Regiſters at an equal Diſtance one from another, to give Air to the Fire; then fit to the Mouth of the Cucurbit, two or three Aludels, and a blind Head; Lute them, and kindle the Fire, and increaſe it gradually, till the lower part of the Pot is red hot, in which ſtate keep it, till you perceive the Aludels and Head cool; then Un-lute the Aludels carefully, without ſhaking, and wipe off the Sublimate which adhere to them, and alſo that which ſticks to the upper part of the Cucurbit.

The Magiſtery of Tin.

DIſſolve the afore-ſaid Sublimate in clean warm Water; Filter the Diſſolution, and precipitate it with Spirit of Sal Armoniack, or Ol. Tartar, *per deliquium:* The Precipitate will be very white, which muſt be waſh'd with ſeveral Waters, till the Calx is inſipid; then dry it gently between Papers, and put it up for uſe.

It is a good Fucus, and us'd in Pomatums, or Waſhes.

Flowers of Tin.

TAke one part of the Powder of Tin, and two parts of Salt Peter; mix them very well; then have ready an unglas'd Cucurbit, with a Hole in its middle, by which the Mixture muſt be Projected: let the Furnace be of a fit proportion, ſo that there may be two Inches clear between the Pot, and ſides of the Furnace. Place it upon an Iron Bar, ſix or ſeven Inches diſtant from the Grate; Fit it in with Tiles, and Lute, as you did in the Sublimation; have alſo a Stople fitted to the Hole in the middle of the Pot. When the Pot is fitted into the Furnace, fit to it (and Lute the Joints well) three or four Aludels, and to the uppermoſt, a Head with a Beak, to which a Re-

a Receiver muſt be fitted. Kindle the Fire, and when the bottom of the Pot is red hot, caſt about half an Ounce of the Mixture into the Hole, which preſently muſt be ſtopt; a Detonation will follow; when it is over, project another half Ounce, and ſo continue (ſtill keeping up the Fire) till all the Mixture is in; then let all cool, and Un-lute the Veſſels carefully, and wipe off the Flowers upon clean Paper; put them in a clean Veſſel, and waſh them with Fountain Water till they are taſteleſs; dry them gently between Paper; when dry, put them up in a Vial for uſe. They are very white, and ſerve for the ſame uſe with the former.

In the Receiver you will find a Nitrous Spirit; and in the bottom of the Pot, you will have a hard Lump, which is the groſſer part of the Tin, and fix'd Nitre: By boiling, or ſteeping of it in warm Water, you will have the Water Impregnated with the Salt Peter, which you may Evapourate to Dryneſs, or cauſe it to diſſolve *per deliquium.*

The Jovial Calx being waſh'd ſweet, and dryed, ſerves to be uſed in Deſiccative Unguents.

Some there are who pretend to order the Flowers, and fix'd Powder of Tin, ſo as to whiten Copper.

The

The Gummy Smoaking Oil of TIN.

TAke one part of Powder of Tin, and three parts of Mercury Sublimate, mix them quickly, and put them in a Retort; place it in Sand, and Lute a large Receiver to it; give it a gentle Fire, which will bring over a Smoaking Spirit, when those Fumes decrease: augment the Fire a little, and a Butter, or Gum will ascend into the Neck of the Retort; at last let the Fire be increased two or three Hours, to the fourth Degree, and Crude Mercury will ascend, with a good part of the Tin, in gray Flowers; separate the Mercury, and put all the rest of that which is Sublimed, in a Tin Pan, to dissolve in the Air, into an Oil, *per deliquium.*

Aurum Mosaicum.

TAke of ☿, ♃, *, and Flowers of Sulphur, *ana* four Ounces; Let them all be made clean, and grind them in a Marble Mortar, till they are perfectly mix'd: Then put them into a Bolt Head, set it in a Sand Furnace; give it gradual Fire, to the third degree; in which keep it two Hours; then increase the Fire to the fourth Degree, and keep

it

it ſo one Hour longer: When all is cold, break the Glaſs; you will find a dirty Sublimate, which put away, and the *Aurum Moſaicum* will remain in the bottom of the Matraſs. You muſt Amalgamate the Tin and Mercury to grind with the Sulphur and Sal Armoniack.

Its *Operation* is Diaphoretick; and is Adminiſtred againſt *Hypochondriack* Diſtempers, *Fits of the Mother*, and the *Venerial Pox*.

Its *Doſe* from ten Grains, to half a Drachm.

Obſervations.

IT is poured into hot Water, the better to ſeparate the Fat from it, which you mix with it in its Purification. *Purification.*

The Amalgama of Tin and Mercury ought to be waſh'd in ſeveral Waters warmed, to take away its blackneſs. *Amalgamation.*

If you deſign to make Salt of the Calcin'd Tin, you muſt put it in an Iron flat Pan, and Reverberate it two or three Hours longer, till it inclines to a whitiſh gray Colour. *Salt.*

In its Sublimation you ought to take care that the Sal Armoniack be clean, otherways ſome Particles of Dirt, which has *Sublimation.*

has accidentally adher'd to the Sal Armoniack, may discolour the Flowers.

Precipitation. In the Precipitation of its Magistery, you may use Spirit of Sal Armoniack, or Ol. Tart. *per deliquium*, indifferently; for they both being Alkalies, weaken the Acid Spirit of Sal Armoniack, so that it lets fall the Tin which was Dissolved by it.

Sublimation. In the Sublimation of its Flowers I have sometimes us'd one Part and a half of Salt Peter, to one Part of Tin, and sometimes three Parts of Nitre, to one of Tin; but I find by Experience, two Parts of Nitre, to one Part of Tin, to be the best Proportion; for if there be too much Nitre, there wants Sulphur to give Flagration, to raise the Flowers; and if there be too little Nitre, there will not be of the Nitrous Spirit sufficient to raise them. Also Note, That where the Powder of Tin is to be used, it is indifferent whether it be that made by shaking in a Box, or a hard Amalgamation beaten to Powder, or fine Filings of Tin.

Smoaking Spirit. In your Mixture of Tin, and Mercury Sublimate, for the Smoaking Spirit, you must immediately put them into the Retort, otherways they will attract Air, and grow clammy, and be troublesom to put in.

Its

Its Stench is very Offensive, but not Pernicious; To avoid the Offence, set it to work in a Chimney: The Degrees of Fire is the greatest Secret in the making this Medicine, which observe thus; Keep it in the First Degree one Hour; in the Second Degree two Hours; in the Third Degree Two Hours; and in the Fourth Degree one Hour. *Aurum Mosaicum.*

There is also a Magistery of Tin, made by dissolving it in Aqua Regis; Pour four Ounces of the Dissolution, into half a Pound of clean Water, it will immediately turn white; Let it be in a Vessel which will contain three or four Pints; Then put to it (gradually) so much Spirit of Sal Armoniack, till the Ebullition ceases; a white curdly Matter will Precipitate; wash that Precipitate with clean Water, till all its Acrimony is gone, and dry it gently; This Magistery will more readily dissolve in Distill'd Vinegar, and make a better Salt of Tin, than that Calx made by Calcination.

The Aqua Regis is made of three Parts Spirit of Nitre, and one Part of Sublimed Sal Armoniack.

CHAP. IV.

Of Lead, or Saturn.

LEAD, or *Saturn*, is a foul Metallick Body, and Imperfect, Composed of an Argent Vive impure, not Fixed, and Feculent, some-what white outwardly, but inwardly red, and of a Sulphur in part combustible; It wants Purity, Fixation, Colour, and Ignition, yielding to an Expert Physician Excellent Medicines.

Purification of Lead.

IT is Purify'd, by melting with Honey, Wax, or Fat, and pouring them into hot Water, in the same manner as you do Tin.

Calcination of Lead.

IT is Calcin'd in an Iron Pan, being kept red hot, and stirring with an Iron Spatula, after the same manner as you did Tin, till it comes into an Ash-colour'd Calx. This Ashy *Calx* being put to Reverberate three or four Hours longer,

longer, becomes Red, and is call'd *Red Lead*, or *Minium*. The *White Lead*, or *Ceruſe*, is made of Plates of Lead, by the Steem of *Vinegar*, after this manner: They put into a Glas'd Earthen Pot Plates of Lead, ſo that they may lye hollow, either by hanging them upon a Wire, or otherways, and ſetting them in a Bed of *Horſe-dung* (with a ſufficient quantity of *Vinegar* in the Pot) for three Weeks, or a Month's time. When they are taken out, beat off what is Calcin'd, and put the reſt into the Pots again with *New Vinegar*, and order them as before, till all is brought into *Ceruſe*: *Lead* is alſo Calcin'd by Spirit of Nitre, Aqua Fortis, Aqua Regis, Spirit of Salt, or any other Corroſive.

Litharge is made by the *Refiners*, when they Refine great Quantities of *Silver*; that which is of a Pale Colour, they call *Litharge of Silver*, and that of Yellow or Red, *Litharge of Gold*.

Burnt Lead, or *Plumbum Uſtum*, is made by mixing two Parts Lead, and one Part Sulphur (the Lead in Filing, and Sulphur in Powder) put in a Pot, and ſet in a Fire to burn, as long as any combuſtible Sulphur is left.

Sugar of Lead.

TAke of Litharge, Red, or White Lead, what Quantity you please, Powder it, and put it into a Pewter, Glass or Earthen Vessel, and put to it eight times its weight of Distill'd Vinegar: An Ebullition will appear upon their Mixture: Stir them well about; then set them upon a digesting Furnace in Sand; Let them stand in Warmth three or four Days, two or three times in a Day stirring them well with a clean Stick, when the Vinegar will have acquir'd a Sweetness; Pour off the Impregnated Vinegar by gentle Inclination, and Filter it; then put it to Evapourate in a Pewter Bason, till a Film appears upon the Surface of the Liquor; Then put it in a Glass Funnel (the small End being stopt with a Cork) and set in a cool place to shoot; When it has stood so twenty four Hours, pull out the Cork, and let the Liquor, which is not Coagulated, run from the Sugar of Lead.

This Liquor is called *Honey of Lead*, which you may make into Sugar, by Evapouration and Chrystallization, or keep to make the Balsam or Magistery, as followeth.

Drop

Drop Oil of Tartar, by Dissolution, into the Honey of Lead, and a white Powder will fall to the bottom; which Powder must be wash'd sweet, and kept for Use, which is the same of the Magistery of Tin.

The Balsam, or Butter of Lead, is made by mixing the Honey of Lead with its equal weight of Salad Oil; Beat them well together, till they are united in the Consistance of a Balsam.

It is used in Scalds and Burns.

The Balsam of Lead, with Oil of Turpentine.

PUT what Quantity of Sugar of Lead you please, into a Matrass; Put upon it four times its weight of Oil of Turpentine: Let them stand in a gentle Heat of Digestion, Fourty Eight Hours, shaking them about three or four times a Day: In that time the Oil will be well tinged; Pour it off from what remains undissolved, by gentle Inclination; Put the Impregnated Oil of Turpentine into a Retort, and draw two Thirds off in a gentle Heat of Sand; that which remains in the Retort, is the Bal-

Balsam, which keep in a Vial well stopt, for Use.

It is accounted an Excellent Medicine for Healing and Sicatrizing Ulcers. It is also used with good Success in Cancers, they being touch'd with it once in twelve Hours.

The Burning Spirit of Lead.

MIX what Quantity of Sugar of Lead you please, with three times its weight of Fuller's Earth, Powder of Bricks, or Tobacco-Pipes clean burnt, and beaten to Powder; Put them into a coated Retort, of which one third must be empty; Place it in an open Furnace, fit a Receiver to it without Luting, and make a very gentle Fire under it, to draw off the Phlegm: When the Drops begin to Taste, Lute well the Joints of the Receiver, and increase the Fire a little, 'till whitish Clouds come into it, and as you find the Fumes to abate, increase the Fire to the most Extream Degree, till no more Fumes appear in the Receiver: Then take off the Receiver, and put all the Liquor into a clean Retort, or a Body with its Head placed in Sand. Lute the Joints well, and make under

under it a gentle Fire, which will drive over its ardent Spirit, in an imperceptible subtle Vapour; After that will rise a Liquor (a little ting'd) which some call *The Yellow Oil of Saturn*, and will appear in little oblique Veins: After that the Phlegm will rise in strait Veins, and in the bottom will remain that which is call'd *The Red Oil of Saturn.* These Substances ought to be Separated by Changing the Receiver in the Rectification.

The Burning Spirit is Diaphoretick, and is given in the *Plague*, *Burning Fevers*, *Small Pox*, and *Venerial Pox*, and in *Hypocondriack Melancholy.*

Its *Dose* is from ten, to twenty five, or thirty drops.

Observations.

THE Pouring it into hot Water, is to Separate the Fat from it. *Purification.*

It gains Weight by Calcination, because a greater quantity of Igneous Particles Insinuate themselves into the Lead, then the Sulphureous ones the Fire drive out. For in Calcination, the Acid of the Fire, joins it self to the Alkali of the Lead, and having driven away its combustible Sulphur, makes a new and incombustible Body. *Calcination.*

White Lead also gains in its weight by the Acid Particles of Vinegar, and burnt Lead by those of Sulphur.

Salt. Any of these Saturnine Calxes will make *Salt*; but I have found the *Flake-Lead*, as they beat it off the Corroded Flakes, to serve best. You may have it at the *Colour-Mens* for 6 *d.* per *l.*

Pewter Vessels are best both to Evaporate and Digest the Distill'd Vinegar, and Lead in; Earthen Vessels suck up too much of the Liquor, and in Glass Vessels it requires more time, and is in danger of breaking. And, besides, its Evaporation in a Pewter Bason, makes it shoot better into Chrystals.

Burning Spirit. I mix Bole with the *Salt*, to keep it from melting; so it will the better emit its Spirit.

All Calxes of *Lead* may be reduced into Solid *Lead* again, by melting, with Charcole-Dust, and Nitre.

CHAP.

CHAP. V.

Of IRON.

MARS, or *Iron*, is a foul, imperfect Metal, Generated of impure Mercury and Sulphur, full of Earth, and strongly United by the Nature of its Parts, but wanting Fusion and Weight. However, when it is well prepared, it yields many Excellent Medicines both for Internal and External Use.

Preparations of Iron.

Dr. Willis *his Preparation of Steel.*

TAke clean Filings of Iron, and Cream of Tartar in Fine Powder, of each alike quantity; mix them well, and make them into a Paste, with White-wine. Then set them to dry in the Sun, or other gentle Heat; break it, and if it has not acquir'd a greenish Colour, Powder it, moisten, and dry it again, as before.

Another

Another opening Crocus with Sulphur.

ANother opening *Crocus* is Prepared with Sulpher; by mixing equal Parts of Filings of Steel, and Sulphur in Powder, and burning them in a flat-bottom'd Earthen, or Iron Pan, continually stirring them with a Spatula, till they come into a Subtle Powder, which will be black, and is *Steel Prepared* with Sulphur. This Prepared Steel being mix'd with more Sulphur, and Fir'd, as before, and continued in Agitation, will acquire a Saffron-Colour.

Its *Use* and *Dose*, as the former.

Crocus Martis Aperiens.

TAke Filings of *Iron*, what quantity you please, moisten them with Rain-water, and dry them in the Sun, or at a gentle Fire; when they are dry, moisten them again, and dry as before: Repeat this five or six times, and the Filings will be in a Subtle Powder, which is call'd the opening Saffron of *Mars*.

You may Expose Filings of Iron to the Air, where Dew may fall upon it, and dry it, as before; this being repeated fourteen or fifteen times, the *Mars* will be

be converted into a Subtle Powder, which is call'd *Crocus Martis.*

Both theſe Powders are Opening, and given with good Succeſs in the *Green Sickneſs*, *Stoppage of Terms*, and in *Dropſies.*

Its *Doſe* from five Grains, to two Scruples, or fifty Grains.

An Aperitive Crocus, in the making of Ens Martis.

TAke the *Cap. Mort.* of *Ens Martis*, Put it into a large Crucible; Set it in a Melting-Furnace, with a good Fire about it; Keep ſtirring till it has done Fuming.

Any of the aforeſaid *Crocuſes*, after being ſprinkled with Vinegar, and being Reverberated three or four Hours, are accounted Binding, and are given in *Diarrhœa*'s, *Spitting of Blood*, *Immoderate Hemorhoids*, and *Terms.*

The *Doſe* from fifteen Grains, to fifty or ſixty Grains.

Crocus

Crocus Martis Aſtringens.

IT is made by Reverberating Filings of Iron, in the Flame of a Wood Fire, for ſixteen or twenty Hours. Some adviſe to ſtir it once in two or three Hours; but this is troubleſome, and after all, it is no better than thoſe which went before, and uſeful generally for the ſame Purpoſes.

Salt, or Vitriol of Steel.

TAke four Ounces of *Iron*, and ſprinkle upon, or moiſten them with two Ounces of Oil of Vitriol: Put them into a Matraſs, and let them ſtand a quarter of an Hour: Then put to them twelve Ounces of Fountain-water by degrees. When all is in, ſet them in a gentle Heat, to ſtand twenty four Hours. Then decant, and filter the Liquor, which muſt be Evaporated in an Earthen or Glaſs Veſſel, till you ſee a Scum appear: Then take it from the Fire, and if you ſee any yellow Powder in the bottom of the Veſſel, decant the clear Liquor from it, into a wide-mouth'd Glaſs, and ſet it in a cool place, where it may ſtand

ſtand twenty four Hours, to ſhoot into Chryſtals: Then pour the Liquor from the Chryſtals, to be further Evaporated; and ſo on, till it all ſhoots into Chryſtals.

It is uſed in all Diſeaſes cauſed by Obſtructions.

Its *Doſe*, from five to twenty Grains.

Salt of Steel, by the Sweet Spirit of Vitriol.

TAke a Flat Iron Pan, turn'd up at the Edges, and put into it ſo much *Spiritus Vitrioli Dulcis*, as will fill it two Fingers; let it ſtand quietly in ſome warm place, till it is Coagulated into a *Salt*; then dry it gently, and keep it in a Vial, well ſtopt.

Its *Uſe* and *Doſe* is the ſame with the former.

Ens Martis.

TAke Filings of *Steel* one Pound, Sal Armoniack in Powder two Pound, mix them well, and put them into a Retort, which ſet in a Sand Furnace, and give

give gradual Fire to the Fourth Degree: when all is Sublimed, let out the Fire, and you will have in the Neck of the Retort, the Sal Armoniack Impregnated with the Sulphur of *Steel.*

Its *Operation* is Diuretick, and a little Diaphoretick.

It is accounted a Specifick againſt the *Rickets* and *Worms* in Children; alſo againſt *Hyſterick Fits*, and a great Opener of *Obſtructions.*

Its *Doſe* from five Grains to one Scrup.

Diaphoretick Steel.

DIſſolve the *Ens Martis* in a ſufficient quantity of warm Water; Filter the Diſſolution, and by dropping leiſurly the Oil of Tartar, *per deliquium* (or Spirit of Sal Armoniack) into the Filtred Liquor, a Powder will Precipitate; Let it ſettle, and decant the Liquor, and dry the Precipitate.

Its *Operation* is Diaphoretick, and Diuretick, and is given to *Hypochondriacal* Perſons, alſo in *Quartan Agues.*

Its *Doſe* from Ten to Thirty Grains.

The Tincture of Steel.

TAke that which remains in the bottom of the Retort, after the Sublimation of *Ens Martis*, Powder it whilſt warm, in a warm Mortar, put it preſently into a Matraſs, with ſo much Spirit of Wine, as will cover it four Fingers high; Let it ſtand five or ſix Hours in warm Sand, and it will be tinged of a red Colour. When it is cold, decant it from the Feces, and put it in a Glaſs well ſtopt, for Uſe.

This *Tincture* is ſaid to be a Specifick againſt *Worms* in Children, *Cachexia* and *Dropſie*.

Its *Operation* is Diaphoretick and Diuretick.

Its *Doſe* from five to fifty Drops.

That which remains, after the *Tincture* is Extracted, may be Reverberated a little; and it is one of the beſt opening Saffrons of Steel. But the continuance of its Reverberation three or four Hours, makes it Aſtringent, as 'tis commonly ſo call'd.

Another Tincture of Steel, and its Sweet Salt.

TAke half a Pound of Filings, without Duſt, put to it one Pound and a half of Spirit of Salt: Let it ſtand upon warm Sand twenty four Hours; then decant and filter the Liquor: Put to the remaining *Steel*, one Pound and a half more of Spirit of Salt: Let it ſtand, as before, twenty four Hours; ſhake it two or three times a Day, and in that time the *Steel* will be almoſt all diſſolved; Decant and Filter, as before; Put both the Filter'd Liquors into a Retort, which place in Sand, and draw off two Pound of the Liquor; then let the Retort cool, aſſoon as you can, but before 'tis quite cold, pour the Liquor from the Sediment, into a Glaſs, and ſet it to ſhoot in a cold place.

Theſe Cryſtals will have a ſweetiſh Taſte, and by three or four Diſſolutions and Coagulations in the ſame Liquor, they will acquire a ſenſible Sweetneſs.

This is accounted the beſt Salt of *Steel*, and more ſucceſsfully Anſwers the Intentions of all the reſt, and is more Pleaſant for the Patient to take.

Its *Doſe* is the ſame with the other Salts.

The Tincture of Mars.

TO make this *Tincture* you must draw the first Dissolution to dryness, or till such time the Drops which Distil from it appear yellow; then, to that which remains, put a Quart of Distill'd Vinegar; and let it stand twenty four Hours in warm Sand; in that time it will tinge: Then take off, and Decant that Red Tincture, and put upon it more Distill'd Vinegar; let it stand as before, and so proceed till it yields no more *Tincture*; Distil off the Vinegar, to the Consistance of a Syrup, and put to it so much Spirit of Wine, as will cover it Four Fingers; set it in warm Sand twenty four Hours, and it will be Tinged; Decant that tinged Spirit, and proceed, as long as it will give any further Tincture

When you have done, take all the tinged Spirits of Wine, and put them into a Cucurbit, set it in a Heat of Ashes, and draw off all the Spirit of Wine, except sixteen or twenty Ounces, which will be a deep and clear Tincture. Put this, when cold, into a Vial, well stopt.

This far exceeds the other Tinctures, and is used in the same Cases and Dose.

The Tincture of Steel, with Tartar.

TAke half a Pound of Rust of *Iron*, mix with it twenty Ounces of Cream of Tartar in fine Powder. Put them into an Iron Kettle, with eight or ten Pints of clean Water; set them over a Fire; cause them to Boil for eight or ten Hours, and stir them often, still supplying hot Water, as it Evaporates: Then let the Mixture settle, and whilst warm, filter it, and Evaporate to the Consistence of a thin Syrup, in an Earthen Pan.

It is a good Aperative Medicine, and given in the same Cases the others are.

Its *Dose* from one Scruple to five, in any proper Vehicle.

The Anodine Sulphur of Steel.

TAke of the aforesaid Tincture Extracted, with Distill'd Vinegar, and drop upon it, either Spirit of Sal Armoniack, or Ol. Tart. *per deliquium*, so long till you see nothing will Precipitate; then let it stand to settle, and Decant the Liquor, which is of no use:

Pour

Pour warm Water upon this Precipitate, and when ſettled, ſhake it; Decant that Water, and put on more, and ſo proceed, till the Sulphur has no ſalt Taſte; then dry it gently, and keep in a Vial, well ſtopt, for uſe.

Its *Operation* is Suderifick and Anodine, and is ſucceſsfully uſed in the *Gout*, *Rheumatiſm*, *Scurvy*, all *Fevers*, and the *Small Pox*.

Its *Doſe* is from ten Grains to half a Drachm, or one Drachm, in any proper Extract, or Conſerve.

The Opening Extract of Steel.

TAke any of the aforeſaid Opening Crocus's, four Ounces, of the Juice of Apples (ordered as followeth) four Pound, put them in an Iron Pan, in a gentle Heat of Digeſtion in Sand, ſixty or ſeventy Hours; Augment the Heat in ſuch manner, that it may boil very gently, three or four Hours; Stir it every quarter of an Hour with an Iron Slice, and when you perceive it to be black, take it from the Fire, and let it ſtand to ſettle a little; whilſt warm, pour it through a ſtraining Cloth, and

by gentle Evaporation bring it to the Conſiſtence of an Extract.

It is endued with the ſame Vertues other Opening Chalybeats are.

Its *Doſe* is from half a Scruple, to two, or one Drachm.

You muſt put half a Pound of Tamerinds bruiſed, to four Pound of the Juice of Apples, and mix them well in an Iron Mortar: Let them ſtand twenty four Hours, in a gentle Heat of Sand, then ſtrain it through a Cloth for the uſe aboveſaid.

The Binding Extract of Steel.

TAke of the binding *Crocus Martis*, four Ounces; Put to it of Red Port Wine (wherein half a Pound of the Pulp of Ripe Sloes has been mix'd and digeſted, as in the Opening Extract) four Pound: Proceed in every thing as in the other Extract, and you have that which they call the *Binding Extract of Steel.*

It is given in *Bloody Fluxes*, *Looſneſs*, and *Immoderate Courſes.*

The *Doſe* the ſame with the former Extract.

Obſer-

Observations.

SOme Authors are of Opinion that *Steel* is the better Subject to Work upon, and Others give the Preference to *Iron*; But I think 'tis Indifferent which we take, since *Steel* is no other than a Concentrated *Iron*; I have us'd them both very often, and never found any Difference, either in their Preparation, or Operation, only *Steel* (by Reason of its Concentration) requires a little more time for its Dissolution. *Choice of Mars.*

Always wash the *File-dust* in several Waters, to separate the Dirt, which has accidentally fallen into it; the Dirt will swim upon the Surface of the Water, and the clean Filings will sink to the bottom; they are best dried in the Sun. *To clean the Mars.*

Rain-water and Dew are accounted better than common Water, to moisten the Filings with, because they are Impregnated with the Nitre of the Air, which causes a better Penetration, and is more Aperative. *Aperative Crocus.*

In the Preparation of *Mars* with Sulphur, place the Vessel in a Chimney, the *Steel Prepared with Sulphur.*

better to avoid those Offensive Fumes it emits.

Dr. Willis *his Prepar.* This Operation requires nothing but diligent Grinding, if there be occasion to moisten it a second time.

Salt of Steel. Let the Dissolution of *Mars* for its Salt be always made in a Chimney, for the better Convenience of the unpleasant Sulphureous Fumes which rise from it; nor fill the Vessel in which you dissolve it, above a quarter full, lest it should boil over.

Salt of Mars, with sweet Spir. of Vitriol. Some Prepare this Salt with equal Parts of Oil of Vitriol, and Spirit of Wine, but the Spirit of Vitriol dulcify'd, produces a finer Salt.

Ens Mart. Of Sal Armoniack we take two Parts to one Part of *Mars*, the better to Penetrate the Filings, and make a Separation of its Volatile Sulphur.

Diaphoret. Steel. In this Precipitation of *Mars*, the Diaphoretick and Diuretick Operation proceeds from the Particles of Sal Armoniack, which are mix'd with it. Therefore we do not wash this, as we do other Precipitates.

Tincture of Mars. This Tincture is also Impregnated with the Sal Armoniack, which makes it operate by Urine.

In

In this Preparation some use Crude Tartar, but I rather choose Cream of Tartar, because its grosser, and more Earthy Parts are separated from it, and therefore it makes the better Penetration into the Iron. *Tincture of Mars, with Tartar.*

Some there are who make a Distinction of the Parts of Iron, affirming that the purer part of it dissolves first, and most easily in an Acid; but I have often try'd that Experiment, and could never find any sensible Difference. Most Corrosives are capable of dissolving the whole Body of *Mars*, but the Spirit of Salt more kindly and readily than any other. *Sweet Salt of* Mars.

This Tincture is thought to be more Penetrating and Noble, than the Foregoing ones, because the *Mars* is Purify'd by three Dissolutions, (*viz.*) with Spirit of Salt, Distill'd Vinegar, Spirit of Wine, and in each Dissolution it leaves new Feces. *The Tinct. of Steel, made with Spirit of Salt, Distill'd Vin. and Spirit of Wine.*

This is call'd, *The Anodine Sulphur of Mars*, because it gives Ease, by quieting the *Archæus*. *Anodine Sulphur of Mars.*

This Extract must be made with the Juice of such Apples as have an Acidity, which must be Augmented by that of the Tamerinds, the better to dissolve the Saline Soluble Salt of the Steel. *The opening Extract of* Mars.

The binding Extract.

The deepest Red Wine you can get is best for this Preparation: The Astringent Quality of the Sloes do much increase the Vertue of this Medicine.

Notwithstanding all those Preparations which are commonly called *Aperitive*, there are some who will not allow any Preparation of *Mars* to be truly such; but that meeting with their proper Acid, in great quantity, as in Diseases of the *Liver* and *Spleen*, they become Opening, and sometimes violently Purging.

CHAP.

CHAP. VI.

Of COPPER.

VENUS, or *Copper*, is a Metalline Body, Foul, Imperfect, and Generated of an Impure *Mercury*; Its Sulphur is Earthy, Combustible, and of an obscure Red; it wants Fixation, Purity, and Weight; but if handled by an Expert Artist, is of great use both for Internal and External Mecidines.

Purification of Copper.

TAke Plates of *Copper*, of the thickness of a Shilling, lay them *stratum super stratum*, with Powder of Sulphur, in a large Crucible; let the first and last Lays be Sulphur; Put them in the Arch of a Glass-maker's Furnace twelve Hours; Then take them out, and when they are cold, scrape off what is Calcin'd: The rest of the Plates, which the Sulphur has not Penetrated, may be again stratify'd and calcin'd, as before: This *Calcin'd Copper* is called *Æs ustum.*

If

If you wou'd reduce it into *Copper* again, take the *Æs ustum*, and heat it red hot in a Crucible, and cast it into an Earthen Pan, wherein *Linseed-Oil* is; cover it presently, to hinder it from Flaming; Let it lye in the Oil till it is pretty cool; Then take it out, and heat it red hot, and quench it as before: Do this nine or ten times, every third time putting new Oil: Then take the *Copper*, which looks very fine, and with *Charcole-Dust*, and *Borax*, put it into a Crucible; set it in a Melting Furnace; give it a strong Fire of Fusion, till it is well melted, and cast it into an Ingot.

Another Purification of Copper.

STratifie Plates of *Copper* with Common Salt, in a Crucible, Calcine it in a Glass-house-fire, as you did the other; scrape all that is Calcin'd; and the remaining Plates stratifie and calcine, as before; Then mix this Calcin'd *Copper* with *Charcole-Dust*, and *Borax*, put it in a Crucible, and with a very strong Fire, in a Melting Furnace, reduce it into a Body, which you may either let cool in the Crucible, or cast into an Ingot that is heated and greas'd.

Cry-

Cryſtals, or Vitriol of Copper.

DIſſolve the aforeſaid *Copper* in Aqua Fortis, or Spirit of Nitre: To one Part of *Copper*, you muſt put three Parts of Spirit of Nitre, by little at a time: Put the Diſſolution upon warm Sand, and Evaporate one half; Set that which remains in the Cucurbit, in a cold place to ſhoot into Cryſtals; the Liquor which remains may be Evaporated as the former, and again ſet to ſhoot: Dry the Cryſtals between Paper, and put them in a Vial ſtopt from the Air.

They are a good Cauſtick to conſume proud Fleſh.

Other Cryſtals of Copper, or Verdigreeſe.

TAke of Verdigreeſe in Powder one Pound, put it into a Matraſs, with four Pound of Diſtill'd Vinegar: Set them upon warm Sand, the ſpace of three or four Days, ſtirring them about three or four times every Day; When 'tis

'tis well settled, pour off the blew Liquor by Inclination, and put new Distill'd Vinegar to that which remains undissolved, and keep it in the Heat again two or three Days, stirring it about, as before, and if the Second Extraction be as blue as the First, pour it off by Inclination, and put two Pound more of Distill'd Vinegar upon that which remains in the Cucurbit, using the same Method as before. This Third Extraction will take all that is dissolvable. This done, put all the Impregnated Waters together, and Filter them; Put them in a clean Cucurbit, and Evaporate one half of the Liquor; then take it from the Fire, and before it is quite cold, Decant it into a clean Vessel, from the Feces (which sometimes fall in the Evaporation) and set it in a cold place, where it may stand fourty eight Hours, to shoot into Crystals; Pour the remaining Liquor from the Crystals, and Evaporate again, and shoot into Crystals, as you did before.

This is call'd *Distill'd Verdigreese*, and is more us'd by *Painters* than it is by *Physicians*; It is very deterstive, and is sometimes us'd Externally.

Spirit

Spirit of Verdigreeſe.

TAke the Chryſtals of *Verdigreeſe*, with which fill a Retort half full; Place it in Sand, giving a gentle Fire till the Flegm is Diſtilled. Aſſoon as you perceive the Drops to be Acid, change the Receiver, and Lute it well with Bladder; then increaſe the Fire, and the Receiver will fill with white Fumes: When you perceive thoſe Fumes to decreaſe, Augment the Fire, and at laſt lay kindled Coals round the Neck of the Retort, and keep up the Fire to the higheſt Degree, till the Fumes ceaſe, and the Receiver grows cool: Then take off the Receiver, and put the Spirit into a clean Retort, and Rectifie it in a gentle Heat of Sand: Put it out of the Recipient into a Bottle, and ſtop it cloſe.

It is accounted a good Medicine in the *Palſie*, *Epilepſie*, and *Apoplexy*; And is alſo a good Menſtruum to Diſſolve Pearl and Coral.

The *Doſe* is from five, to twenty five, or thirty Drops, in a convenient Vehicle.

The Crocus of Copper.

LET the *Cap. Mort.* of the Spirit of *Verdigreeſe* be beaten to fine Powder, and in an Unglas'd Pot Reverberated for ten or twelve Hours, often ſtirring it with an Iron Rod; Then waſh off the moſt Subtle Powder from the Groſs; Dry it, and put it up for uſe.

Its *Operation* is Diaphoretick and Diuretick. It ſtops Bleeding, both Internal and External: It is *Anodine*, and ſucceſsfully uſed in *Gonorrhœa's*, by Injection: It is alſo good againſt *Looſneſs* of the *Belly*, and *Dyſenteries*.

Its *Doſe* is from five, to twenty Grains.

The Tincture of Copper.

TAke the *Reverberated Crocus*, before it is waſh'd, four Ounces; Put it in a Matraſs, with Spirit of Salt twelve Ounces; Set it upon warm Sand to Digeſt, Forty Eight Hours, (ſhaking it about three or four times a Day) in which time the Spirit will receive a Red Tincture; decant the Tincture; Put upon the *Copper* half a Pound of new Spirit of Salt; digeſt, and ſhake it, as before;

fore; Put the Tinged Spirit into a clean Retort, and draw to a dry bottom in the Second Degree of Sand-Heat; To that which remains in the bottom, put Diſtill'd Vinegar, twelve Ounces; Digeſt, and Agitate, as in the former Digeſtion, you will have a Red Tincture, which pour off by gentle Inclination; Put to that which remains, half a Pound more of Diſtill'd Vinegar, and Digeſt, as before; Then put the Tinctures together, and Filter them; Put the Filter'd Liquor into a clean Cucurbit, with its Head and Receiver; ſet it in Sand, and in the Second Degree of Fire, let it be drawn to the Conſiſtence of Honey; Then put to it twelve Ounces of Tartaris'd Spirit of Wine; Let this Digeſtion be made in a Circulatory, or double Veſſel, well Luted; give it Fourty Eight Hours Digeſtion, with the ſame Agitation as formerly; Decant the Tinged Spirit of Wine, and put on more; and ſo do 'till it will Extract no more Tincture: Put all the Tinged Spirits into a clean Cucurbit, and in a gentle Heat of Sand, draw all off to about eight Ounces, which put into a Vial, well ſtopt, for Uſe.

Its *Operation* is Diaphoretick: It is given in all Diſeaſes of the Head, in Fevers, Small Pox, and the *Venerial Pox.*

Its *Doſe* is from ten to fifteen Drops.

Obſer-

Observations.

ALL the Fæces from which you have drawn the former Tinctures, you may save, and Reduce them into a very fine Powder, in a strong Fire, with Charcole-Dust, Nitre, and Borax.

Purification. Such Salt, or Sulphur, as you shall find to lye loose between the Cemented Plates, after you take them from the Fire, you may keep a part, and only scrape off such as stick to the Plates.

Dissolution Dissolve the Copper, and Evaporate the Dissolution, always in a Chimney, to avoid the obnoxious Fumes.

Spirit of Copper. To make the Spirit of *Verdigreese*, always choose the Crystals. For *Crude Verdigreese* being mixt with some parts of the Grapes (with which it is Corroded) sends forth an Oilinesss, from which the Spirit is not easily Separated by Rectification.

Crocus of Copper. Sometimes the Reverberation of the Crocus is as well Performed in five or six Hours, as it is in twelve Hours, according to their Diligence in keeping up the Fire, and stirring the Matter.

CHAP.

CHAP. VII.

Of MERCURY.

Mercury is no other than a Mineral, or Metallick Water, or Liquor, agreeable to all Metals, as their Mother, but more closely adhering to *Gold*, than to any other, by reason of its Purity; and Philosophically opened, yields the True Metalline Menstruum, *&c.*

It is sometimes to be found running in the Veins of the Earth, in the perfect Form of Quick-silver; but much the greater quantity of it is drawn from a Mineral Stone Call'd *Natural Cinnaber*: The Vivification of it into running *Mercury*, I shall give in one of the following Processes.

Purification of Mercury.

IT is Separated from such Dirt as has accidentally faln into it, by forcing it through a clean Cloth, or Leather: It is better cleansed by grinding it with Salt and Vinegar, and washing it with

warm Water, and continuing so to do, till it blackens not the Salt or Water: But there is yet a better way of Purifying it, by putting what quantity of it you please into a Retort, with equal its weight of Salt of Tartar, and the same weight of Calx Vive upon it; Place it in a Sand Furnace, and give a gradual Fire, till it is Distill'd into the Receiver. Some fill the Receiver half full of Water, but this gives an unnecessary trouble, because the *Mercury* comes not over in Fumes, but drops out of the Neck of the Retort into the Receiver. If you repeat this three or four times, it makes the *Mercury* extream bright and pleasing to the Eye, and frees it from all its foul External Sulphur. It is also well Purify'd by Vivifying it from Sublimate, Cinnaber, or an Amalgama of Gold or Silver.

Artificial Cinnaber.

TAke of Sulphur one Pound, melt it in an Earthen-Pan; then put to it by little at a time, three Pound of Crude *Mercury*, stirring them till no *Mercury* appears; then let them cool; Powder the Mixture, and them into an Oval Bolt-head Luted; Place it over a naked Fire, which

which increase gradually, to the Fourth Degree, and the Cinnaber will be Separated in a Cake above the Fæces.

The Vivification of Cinnaber.

TAke of Cinnaber one Pound, Calcin'd Tartar, or Pot-ashes, one Pound, Calx Vive two Pound; Grind them well together, and put them into a Retort, leaving at least one Part of Three empty. Place it in a Reverberatory Furnace, and fit a Receiver; Let it stand twelve Hours, and then kindle the Fire, increasing it gradually to the fourth Degree; Keep it so till the *Mercury* is rais'd into the Neck of the Retort and Receiver, which will be in Seven or Eight Hours time.

Then put all the *Mercury* into a clean Diaper Napkin, placed over a clean Earthen Dish, and squeeze it through to separate from it any Heterogeneous Matter, that may have ascended in the Distillation.

It is also Revived by mixing Cinnaber, one Pound, with one Pound and a half of Filings of Iron, and Distilling as before.

The Corrosive Sublimate of Mercury.

TAke of *Quicksilver* seventy Pound, of Corrosive Sublimate five Pound, of Common Salt, and Nitre, of each fifty Pound, of Rubify'd Vitriol, one hundred, Pound of *Caput Mortuum*, of *Aqua Fortis*, twelve Pound and an half. The *Mercury Sublimate*, *Common Salt*, *Nitre*, *Caput Mortuum*, and *Rubify'd Vitriol*, made into Fine Powder, and kept each by themselves, are to be mix'd as followeth. The *Quicksilver* and *Sublimate* must first be mix'd with about a quarter part of the Salts, in a convenient Vessel, by Agitation. This Mixture will grow moist, and part of the *Quicksilver* will Incorporate with the Salts. Proceed putting in the Salts (by a quarter part at a time) till all is in, continually stirring, till no part of the *Quicksilver* appear in a running Form: Then put to it the *Caput Mortuum*, which will a little thicken it. When these Ingredients are equally and well mixt, they will become pretty dry, and then you may Agitate them through a Sieve; And last of all, mix the sifted Powder, and Rubify'd Vitriol. Put this Mixture in equal Proportions, into Four Subliming Glasses; the Figure of which, with the Furnace, you will see in the beginning of this Treatise.

tiſe. Place them in Aſhes; fit Heads and Receivers to them, and give a gentle Fire for twenty four Hours; in which time the *Mercury* will be diſſolved, and an *Aqua Fortis* will Diſtil into the Receivers. After that increaſe the Fire, and keep it in continually, till you perceive the Sublimate to riſe in the Veſſel above the Aſhes, ſeparated from the *Caput Mortuum*, in form of a Cake, which commonly happens about the Fourth or Fifth Day. When all is cool, carefully remove the Glaſſes from the Aſhes, and take out the Cake of Sublimate, which keep for uſe.

Mercurius Dulcis.

TAke of Corroſive Sublimate, one Pound, to which add of Purify'd *Quickſilver* twelve Ounces; Grind them well together in a Stone Mortar, with a Glaſs or Wooden Peſtle, till no *Quickſilver* appear. Then fill one third Part of a Bolt-Head with the Mixture; ſet it in a Sand Furnace; let the Sand lye half an Inch thick betwixt the bottom of the Bolt-Head, and the Kettle, filling it up with Sand, within an Inch of the Neck; Stop the Mouth of the Glaſs with a little Paper, or Cotton-wool; Then give Fire

of the Firſt Degree two Hours, increaſe it to the Second, in which keep it three Hours; go on to the Third Degree, three Hours more, and in that time the Sublimation will be performed. Take it out, when cold, and wipe the Sand and Dirt from the Bolt-head; break the Glaſs over a clean Sheet of Paper, and ſeparate the Sublimate from the light Flowers at the top, and the Duſt which lies in the bottom. Afterwards Powder this groſly, and Repeat the Sublimation the Second and Third time. If you Sublime it ſix or twelve times, it is called *Calomelanos*.

Its *Operation* is Cathartick, and is given to kill *Worms*, and in all *Venerial Caſes*.

Its *Doſe* is from five Grains to two Scruples.

Red Precipitate of Mercury.

TAke *Crude Mercury* one Pound, of *Aqua Fortis* made as followeth, two Pound; Let them ſtand in the Heat of Aſhes, that the *Aqua Fortis* may ſimper till the Flowers begin to appear. Then increaſe the Fire, till the Flowers riſe red about the middle of the Glaſs, and proceed with the Fire to the higeſt Degree, for

for the ſpace of three Hours. After which, let all cool, and take out the Precipitate.

It is never given inwardly, without Correction. It eats Proud Fleſh, and is uſed for the laying open of Shankers.

The *Aqua Fortis* for this uſe is to be made of Allum and Nitre, of each two Pound, and of Vitriol one Pound, and Diſtill'd as other *Aqua Fortis.*

The Red Panacæa of Mercury.

TAke what quantity you pleaſe of *Red Precipitate*; Put it into a Cucurbit, and afterwards, eight times its quantity of Spring-water: Let it ſtand in a Heat of Sand twenty four Hours, ſhaking it three or four times; Pour off the Water, and keep it for Uſe. Then dry the Precipitate, and put to it eight times its weight of Spirit of Wine; Fit a Glaſs to the Mouth of the Cucurbit; Lute it well; and ſet it in a gentle Heat. Let it continue there fifteen Days; ſhake it often, and after it is cool, pour off the Spirit of Wine by Decantation. Then take the *Precipitate*, and put it in a *China-Diſh*, with twice its weight of Tincture of Sulphur; ſet it on the Fire,

and burn off the Tincture; and then put on fresh Spirit of Wine; Let it simper two or three Hours, and after it is setled, Decant, dry the Precipitate, and put it up for use.

It is one of the best *Mercurial Precipitates*, especially in the *Venerial Pox.*

Its *Operation* is Cathartick, and sometimes a little Emitick.

Its *Dose* is from two to twelve, or fifteen Grains.

The White Panacæa of Mercury.

GRind *Calomelanos* to very fine Powder, and put it into a Cucurbit, with eight times its weight of Spirit of Wine; Place it in warm Sand; Let it stand fifteen or twenty Days, and shake it every Day two or three times. Then fit a Glass to the Mouth of the Cucurbit, to make it a Circulating Glass; Separate the Spirit either by Decantation, or Distillation, and dry the Powder in a gentle Heat. This is called *Panacæa Mercurii.*

Its *Dose* the same with *Mercurius Dulcis*; and some think it a better and more safe Medicine, because the Spirit of Wine takes from it some of its Corrosive Salts, or at least Corrects them.

White

White Precipitate.

DIssolve four Ounces of *Mercury* in eight Ounces of Spirit of Nitre; when tis all Dissolved, put it into a wide-mouth'd Glass, in which is a Pint of Spring-Water; shake them together, and pour on Filter'd Brine, by little and little; let the Brine be as strong as you can make it; to a Pint of which put in two Ounces of Spirit of Sal Armoniack; stir the Matter about, and let it settle; then put on more Brine; stir, and let them stand to settle, as before; and so continue, putting on Brine, till you perceive no more will Precipitate thereby. Then let it stand five or six Hours to settle, and pour off the Water by Inclination. Put on common Water; stir it about, and when settled, Decant as before, and so proceed, putting on fresh Water, stirring and pouring off, till you find the Precipitate insipid. Then lay a clean Paper upon a Chalk-stone, put the Precipitate upon it, and let it lye there till the Chalk has absorb'd the Water; then remove it to a Board; and let it dry in the Shade, between two Papers.

Its

Its *Operation* is a little Cathartick, and Emetick ſometimes; it alſo procures Salivation.

It is given in the *French Pox*, *Scurvy*, and *Yellow Jaundice*.

Its *Doſe* is from five to fifteen, or twenty Grains.

If you boil it two or three Hours in Spirit of Wine, it will free it from ſome of its Corroſive Salts, and render the Medicine more ſafe.

Turbith Mineral.

TAke four Ounces of *Quickſilver*, put it into a Retort, and to it four Ounces of Spirit of Nitre; Let it ſtand till it has done Fuming, then add Oil of Vitriol half a Pound; Place the Retort in a Sand Furnace, give it a gradual Fire to the Fourth Degree, and the Operation will be performed in ſix or ſeven Hours time; Then take out the Retort, and break it; Pulverize the white Maſs, either in a Glaſs or Marble Mortar; Put it into a wide-mouth'd Glaſs, and pour to it three Pints of warm Water; Let it ſtand two Hours, and ſhake it three or four times; when 'tis ſettled, pour off the Water by Inclination, and keep it by

by it ſelf; Put more Water to the yellow Powder; ſtir it well about, and when ſettled, pour off as before, and ſo proceed with ſeveral Ablutions, till the Powder has no Taſte; Dry the Powder upon a gentle Heat of Sand, and put it up for Uſe.

The firſt Waſhings are good to touch old and ſtubborn Ulcers with, and to mix with any ſweet Water to Cure the Itch.

The *Turbith* is Cathartick and Emetick, and is chiefly uſed in *Venerial Caſes.*

Its *Doſe* is from two to eight Grains.

Green Precipitate.

PUT four Ounces of *Mercury* into a Matraſs, to which put of Spirit of Nitre, or double Aqua Fortis, eight Ounces. In another Glaſs put half an Ounce of fine Copper, which diſſolve in an Ounce and half of Spirit of Nitre, or Aqua Fortis. Put both the Diſſolutions together; place them in Sand, and Abſtract the Aqua Fortis. In the bottom of the Veſſel there will remain a blackiſh Maſs, which muſt be Powdered in a Glaſs or Marble Mortar. This done, put it into a Cucurbit, and pour upon it four Pints

Pints of Distill'd Vinegar; Set it in a Heat of Sand, where let it continue Fourty Eight Hours, shaking it once in two or three Hours. At last, augment the Fire, to make the Distilled Vinegar boil; Let it continue so, at least one Hour, and when cold, pour off the Distill'd Vinegar by Inclination, and you will find it tinged of a green Colour; Put upon that which remains, more Distill'd Vinegar, and proceed as before; Filter the tinged Vinegar, and put it into a Cucurbit; set it in a Heat of Sand, to Evaporate gently, to the Consistence of Honey, or that it begins to sparkle; then take it from the Fire, and let it cool; when 'tis cold it will be an hard Mass, which make into fine Powder, and keep for Use.

Its *Operation* is Cathartick, and Emetick.

It is a Specifick in *Gonorrhœa*'s, and is given in all *Venerial Cases.*

The *Dose* is from two to six Grains.

Æthiops Mineral.

TAke Flowers of Sulphur, and crude, clean *Mercury*, of each half a Pound; Let them be ground together in a clean Iron Mortar, till they are Incorporated into a black Powder. It will take up four or five Hours time to grind it.

The

The Coraline Secret of Mercury.

TAke four Ounces of *Red Precipitate*, put it into a Retort, and put to it eight Ounces of Spirit of Nitre; set it in a Sand Furnace, and draw off the Spirit in a gradual Heat, to the Fourth Degree: This Operation will be perform'd in five or six Hours: Return that Spirit of Nitre, with four Ounces of new Spirit upon the Precipitate, and draw off, as before; Repeat the same Operation, with four Ounces of new Spirit; and at last let it continue at least two Hours, in the Fourth Degree of Fire; Then let all cool, and you will have a very Red and Subtle Powder, which put in a Crucible, and set in a Fire of Charcole, but not exceeding a Worm Red, half a quarter of an Hour; Then put it into a Matrass, and put to it three Pints of Distill'd Fountain, or Rain-Water; set it in a Sand Furnace, and give it a gradual Fire till it boils; and so keep it half an Hour: Pour off that Water by Inclination, and dry the Powder gently: Then put to it twelve Ounces of Tartaris'd Spirit of Wine, and in a gentle Heat draw it off, and so proceed by two Cohobations. Then put to it twelve Ounces of new Tartaris'd Spirit of Wine, fit

fit a Glass to the Mouth of the Cucurbit, to make it Circulatory; Let it stand in a gentle Heat of Sand Fourty eight Hours; and at the last of all, let it simper a little; then let all cool; Decant the Spirit of Wine, and dry the Powder, which is called *Arcanum Coralinum.*

Its *Operation* is chiefly Cathartick.

It is given in the *Gout*, *Dropsie*, *Scurvy*, and the *Pox*; and is one of the best *Precipitates* commonly made.

Its *Dose* is from three to ten Grains.

Oil of Mercury.

EVaporate the First Washings of *Mineral Turbith* to a Salt; set it in a cold moist place, and it will Dissolve into a strong Corrosive Liquor, which is call'd, *Oil of Mercury.*

It is of excellent Use to touch Venerial Shankers, if you apply to them Pledgets dipt therein.

Another

Another Oil of Mercury.

TAke four Ounces of Corroſive Sublimate, and of Sublimed Sal Armoniack half a Pound; make them both into Fine Powder, and mix them well; put them into a Retort; place it in Sand, with a Receiver to it; make a Fire, which raiſe gradually, to the Fourth Degree, and in ſeven or eight Hours time the Operation will be done.

Take all that is Diſtilled and Sublimed, grind it in a Glaſs or Marble Mortar, and afterwards ſet it in a Cellar, in a flat Glaſs, to Diſſolve into a Liquor, which is call'd, *Oil of Mercury.*

It is Endued with the ſame Vertues the Preceding Oil is.

Obſervations

Observations.

Cinnaber. TAke care you place the Mixture in a Chimney, that the Stench of the Brimstone do not offend you. And *Note*, that it is sufficient if the Sulphur be kept in just so much Heat as to be Fluid, till such time the *Mercury* be Incorporated with it.

Revificat. of Cinnab. The Mixture is left twelve Hours without Fire, to give the Calx time to swell gradually, which otherways might endanger cracking the Retort; And also that the Alcalical Salt may have Mortify'd the Acid Sulphureous Spirit, by which the *Mercury* was Coagulated; which done, the *Mercury* will separate more easily: As for putting Water into the Receiver, 'tis a trouble to no purpose; for I have several times Reviv'd *Mercury* from an Amalgama of Cinnaber, Sublimate and Precipitate, without one drop of Water in the Receiver.

Corrosive Sublimate. The Mixture of *Crude Mercury*, Sublimate, Salt, and Nitre, becomes moist, and of a pappish Substance; to which, if you put the Rubify'd Vitriol, it wou'd presently grow hard as a Stone; which wou'd be very troublesome to Reduce again into Powder. But the *Caput Mortuum*

tuum of *Aqua Fortis*, or (if you have it by you) some *Caput Mortuum* of *Mercury Sublimate* answers the same end, and brings the Mixture to a temperate dryness, which by Agitation comes into a Powder of it self. With this Powder the Rubify'd Vitriol may conveniently be Incorporated, and the Operation ought always to be performed in a Chimney, to avoid the Nitrous Fumes, which are very Suffocating. You may make the Composition in any quantity your occasion requires; the less your quantity of Mixtures, the less Time and Fire will finish the Operation.

The Sweet Sublimate

When you grind the Sublimate and Crude Mercury together, muffle your self with a Napkin, or Handkerchief, to keep the Volatile Atoms, which will rise from the Sublimate, out of your Mouth and Nostrils; and be careful not to make the Fire too big, for too fierce a Fire makes it rise black, and if so, you must Sublime it again; and if that Sublimation does not bring it to its colour, mix with every Pound of *Mercurius Dulcis*, one Ounce and a half of decrepitated Salt, and Sublime again.

Precipitate Red Sublt.

The *Aqua Fortis* which you save in making of Sublimate is best for this Operation, which also ought to be perform'd in a Chimney.

White Panacæa of Mercury. Before you put the Spirit of Wine to it, you muſt reduce it into a moſt impalpable Powder, which muſt be paſt through the fineſt Sieve, that ſo the Spirit of Wine may the better act upon thoſe Minute Atoms, and waſh off part of the Corroſive Salt which keeps it in a dry Form.

Red Panace of Mercury. The Red Precipitate muſt alſo be ground very fine, before it is waſh'd, for the Reaſon aforeſaid.

White Precipitate Put not above two Ounces of the Spirit of Nitre at a time upon the Crude Mercury; and when it has acted upon the Mercury, and the Fumes begin to ceaſe, put on two Ounces more, and ſo do till the Mercury is all diſſolv'd; If you ſhould put all the Spirit of Nitre on at once, the action would be ſo violent that it would heat too ſuddenly, and endanger the Glaſs: Be as cautious as you can, the Fumes will riſe with ſome violence, and therefore this Operation ought always to be done in a Chimney that the ill Fumes may be avoided.

Mineral Turbith. The Oil of Vitriol does not Diſſolve the Mercury, it only calcines it, but the Spirit of Niter diſſolves it, and produces a Turbith more ſubtile than that made with Oil of Vitriol alone.

Here

Here is nothing worthy of Remark, but to choose clean and good Ingredients, and to grind so long, till the Medicine becomes very black. *Æthiop Mineral.*

You ought to observe the same precaution here, as in the White Precipitate, *viz.* to put the Spirit of Niter upon the Mercury by little and little, and also to perform the Operation in a Chimney. *Green Precipitate.*

You may take clean crude ☿ instead of Red Precipitat if you please; The first Dissolution and Exsiccation makes it Red Precipitate, Then you may freely put all the Spirit of Niter upon the Precipitate at once, because the Action of the Mercury, and Spirit of Niter is over in the first Dissolution of the Mercury. In all things else proceed as the Process directs. *Arcanum Coralinum.*

These Oils are Mercury coagulated by the corrosive Spirits of Vitriol, common Salt, and Sal Armoniac, which afterwards will dissolve again like a Salt; it ought to be Evaporated in Glass, because Earthen Vessels will suck in too much of the Salt, and it will prey upon the Lead with which the Vessel is glaz'd. *Oils of Mercury.*

Corosive Sublimate in small quantity.

If you desire to make Mercury Sublimate in a small quantity, Dissolve one Pound of crude Mercury in 18 or 20 Ounces of Spirit of Niter: Distill off that Spirit, break the Glass, and take out the Mass, beat it into Powder in a Glass or Marble Mortar; and afterwards take of Vitriol calcin'd and powder'd, and Common Salt *Ana* one Pound; Grind them all well together; Fill a Matrass not above half full, and set it on a Sand Furnace; Increase the Fire gradually to the Third Degree, and the Sublimate will all rise in Seven or Eight Hours.

CHAP.

CHAP. VIII.

Of Bismuth, or Tinglas.

IT is a Smooth, White, Metallick Matter, brittle, and breaks in large Flakes like *Regulus Martis*. It is Artificial, and compos'd of Tin, Tartar, and Arsnick, but not made in any Quantity in *England*, but in the Northern Parts of *Germany*, from whence we have it.

Preparations of Bismuth, or Tinglass.

Flowers of Bismuth, or Tinglass.

BEat the *Tinglass* into very fine Powder, and to Four Ounces of it put half a Pound of Nitre also in fine Powder; put in that Mixture by half a Spoonful at a time, when the Body is red hot; and when the Operation is over, take away the Aludels, and wipe off the Flowers with a Feather.

These *Flowers* are very white, and Esteemed an Excellent *Fucus*.

Magistery of Bismuth.

PUT one Pound of Spirit of Nitre, (made with Oil of Vitriol) in a quart Body uncut, and put to it as much Powder of Tinglass, by an Ounce at a time, as the Spirit is capable of dissolving, which will be about Seven or Eight Ounces; Then take two Gallons of Water, and dissolve in it four Ounces of Common Salt; Filter the whole, and put it into a clean, Earthen Pan; Pour upon it the Dissolution of *Bismuth*, and immediately it will turn Milky, and a Precipitate will fall; Permit it to stand till settled, and by gentle inclination, pour out the Water from the *Magistery*; put on more fresh Water, stir it well, and when settled, pour it off, and so continue the ablutions, till the *Magistery* is insipid, which dry gently, and keep for use, which is the same with the Flowers.

Observations.

Flowers of Bismuth. LET all be sublimed, which will rise from one half Spoonful, before you put in another, which you may know

know by a little crackling Noiſe which will ceaſe; Waſh the Salt from that which remains in the bottom of the Subliming Pot, and it is not only a good *Fucus*, but alſo a good *Diaphoretick*, eſpecially if the Spirit of Nitre be once or twice diſtill'd from it after it's waſhing.

Its Doſe and Vertue is the ſame with Mineral *Bezoar*.

Magiſtery of Biſmuth.

Be ſure to place the Cucurbit (in which you make the Diſſolution) in the Chimney, the better to convey the Fumes, which are bad for the Breaſt, Lungs and Brain; And if you ſee a black Scum upon the Surface of the Water, when you make the Precipitation; take it off with a Spoon.

CHAP. IX.

Of Antimony.

ANtimony is a Mineral Body, nearly related to Metals, but more approaching to the Nature of *Saturn*. It is composed of a Mineral *Sulphur*, partly pure, and of a Solar Nature, and partly combustible, like other *Sulphur*.

It is full of an indigested fuliginous Mercury, but more fixed than the Common. It is a most excellent Subject both for Internal and External Medicine, *&c.*

Regulus of Antimony.

TAke of Antimony one Pound, Tartar Twelve Ounces: Nitre Six ounces, powder them finely and mix them exactly; Then put your Crucible in a Melting Furnace, let the Fire increase gradually till the Crucible is red hot, before you put in your mixture, which do by a small spoonful at a time till all be in; Then increase the fire and stop the door of the Wind-Furnace and there let it continue in Fusion half or three quarters

ters of an hour till its ſparkling in the Crucible is well ſpent, Then Poure it into a little Mortar, being firſt made clean, and afterwards heated and greas'd with a little butter, Tallow, or Wax. Let it ſtand till cold; and then turn it out; beat of the *Scoria*; and put it by in an Earthen Pan to make the *Sulphur Auratum* with; Then melt your *Regulus* again, and project one Ounce of Nitre in Powder: let it ſtand in fuſion a quarter of an hour, and caſt it out into the Mortar heated and greas'd as before, and it will be more pure.

If you would have it yet more pure, repeated the laſt Operation once more, ſtill ſaving the *Scoria* together; This *Regulus* you may form into Cups, Pills, or infuſe it in White-Wine Ten or Twelve Hours, and it will have the ſame Operation with the infuſion of *Crocus Metallorum*.

Different Quantities are us'd in the making this *Regulus*; Some take Equal parts of Antimony, Nitre and Tartar; Others, Antimony one Pound, Tartar one Pound and an half, and Nitre two Pounds; but I have found no Compoſition produce more, nor better *Regulus* than this I have given you.

The Golden Sulphur of Antimony.

BOyl the *Scoria's* of the *Regulus* in Twenty times its Weight of Fountain-Water, the ſpace of one Hour; Stir it often, and whilſt hot, run it through a fine Straining-Clout; Then put Diſtill'd Vinegar to it, and there will Precipitate a red Powder; Let it ſtand to ſettle, and drop more Diſtill'd Vinegar into it, and if it turn the clean Liquor muddy, let it and drop yet more Diſtill'd Vinegar again into it; and ſo proceed till you ſee the ſubſiding Liquor will not turn muddy by putting Diſtill'd Vinegar to it; Waſh it with many warm waters till it is without Taſte or Smell; Then put it into a Coffin of Paper to drain off as much of the Water as you can; And laſtly, Put it into a flat Earthen Diſh, and ſet it in a gentle warmth to dry.

It is Emetick and Cathartick, and Endou'd with the ſame Vertues other Antimonial Emeticks are.

Its Doſe is from one to Six or Eight Grains.

The

The Martial Regulus of Antimony.

TAke of small Nayls one Pound and an half, put them into a large Crucible placed upon a Tile in a Melting Furnace, let the *Fire* Kindle about them gradually till the nails are ready to melt, then project (by a good spoonful at a time) of Antimony one Pound, Nitre Four Ounces, and Two Ounces of Tartar, powdered and well mixt. Bury the *Crucible* in Charcole, shut the Door of the Furnace, and let it stand in the strongest Fusion till it has done sparkling: Then take it from the Fire, and pour it into an Iron Mortar, hot and greaz'd as usual: When 'tis cold, beat off the *Scoria*, and Melt it again; and put to it (by a Spoonful at a time) Two or Three Ounces of Nitre in gross Powder; Let it stand in strong Fusion as before, till it cease to sparkle; then remove it from the Fire, and pour it into a warm Mortar as before: Repeat the same Operation the Third and Fourth time, always casting in Two Ounces of Nitre, but the Fourth Time, let the *Regulus* melt well, before you put in the Saltpetre; when cold, beat off the *Scoria*, and you will see a perfect Star upon the Surface of the *Regulus*.

Its Operation is as the *Regulus Antimonii*, but more Cathartick. Some say, 'tis altogether Cathartick, but I have not found it so.

It is given in the *Venereal* Disease, Dropsie, and Scurvy.

Its *Dose* is from Two to Eight Grains.

Regulus of Antimony with Tin.

TAke good *Regulus of Antimony* Four Ounces; Melt it in a Crucible with Four Ounces of Tin a quarter of an Hour, in which time put in one Ounce of Nitre, and when the Flame is spent, and the Matter well fluxt; take it from the Fire, and cast it into a warm, greaz'd Mortar.

In the same Manner you may make the *Regulus* of Gold, Silver, Copper, or Lead.

It is usually given in the Suffocation of the Womb, and to open all Obstructions.

Its *Dose* is from Three Grains, to a Scruple.

Cro-

Crocus Metallorum.

TAke of Antimony one Ounce, Nitre Fourteen Ounces, and Common Salt Twelve Ounces; Powder them finely, and mix them well: Set a Crucible in the Fire; when it is red hot, put in the Mixture by a Spoonful at once; When all is in, shut the Door of the Furnace; Let the Matter stand in strong Fusion half an Hour; Then take it from the Fire, and cast it into a warm, greaz'd Mortar.

Its Operation is Emetick. But the Infusion of it in White-Wine or Canary, is generally us'd thus, (*viz.*) One Ounce of the *Crocus* in fine Powder, to a Quart of Wine; of which is given from one Ounce and an half, to Four Ounces.

Its *Dose* is from Two to Eight Grains.

Diaphoretick Antimony.

TAke of Antimony one Pound, and Saltpetre Three Pounds; Powder and mix them exactly; Then put them into a red hot Crucible, by a Spoonful at

at a time, and let it ſtand half an Hour; Remove it before 'tis quite cold, and put it into a large Earthen Pan, almoſt full either of hot or cold Water: Let it remain there Ten or Twelve Hours to diſſolve the Salt; then take it out, and if any of the Calcin'd Antimony adheres to the Crucible, ſcrape it off with a Knife; ſtir the white Matter about with a clean Stick, and when 'tis well ſettled, decant the Water into a clean Pan, and keep it to make the Antimonial *Sal Prunellæ*; Put on more warm Water, and decant it as uſeleſs; Repeat the Ablution till the Antimony is inſipid. When this is done, put more freſh Water, ſtir it about, and preſently pour it off into another Pan; put on more, and pour off as before, and ſo do till all the fineſt part of the Preparation is waſht off, and by this means you may ſeparate it from the groſs, dirty part: Having thus ſeparated the finer part, let it ſtand to ſettle, and pour off the Water by Inclination; Put the *Antimonium Diaphoreticum* upon a clean Sheet of white-brown Paper, and lay it upon a Chalk Stone to ſuck in the Moiſture; Remove it into a very gentle heat to be perfectly dryed, and put it up for uſe.

Its Operation is Diaphoretick, and is given in *Venereal* Diſeaſes, Dropſies, Scurvies, Malignant Fevers, and the Small Pox.

Its

Its uſual *Doſe* is from Five Grains to Twenty Five; but I have known it given with good Succeſs by half an Ounce at a Doſe, and repeated Two or Three times in a day, and that for ſeveral days ſucceſſively.

The firſt Waſhing which you put by, may be evaporated, and you will have the *Antimonial Sal Prunellæ*, which is endow'd with the ſame Vertues as *Sal Polichroſtum.*

Cerus of Antimony.

IT is made with the *Regulus* of Antimony and Niter in the ſame Proportion and Manner as you made the *Antimonium Diaphoreticum.*

Its *Uſe* and *Doſe* the ſame.

Antiheticum Poterij.

IT is made of one part of *Regulus Jovis*, and three parts of Nitre beaten into Fine Powder, and mixt, and in all things

things proceed as you did with *Cerussa Antimonij.*

Its administred in the Pox, Hectick Fevers, and Consumptions.

Its Dose is from Five Grains to a Drachm.

The Medicinal Antimony.

ANtimony Five Ounces, Salt of Tartar one Ounce, Common Salt Four Ounces, Powder and Mix them well, and let them stand in the Crucible half an Hour melted; Then turn out the Compound into a warm, greaz'd Cone, or let it stand in the Crucible till cold; beat off the *Scoria*, and powder the purer part which remains in the bottom; give it several lotions of warm Water till the Salts are all washt from it: Then dry it, and keep it for use.

Some attribute only a Diaphoretick Quality to it; but it will in some Constitutions, both Vomit and Purge.

Its Dose is from Three to Fifteen Grains.

The Magiſtery of Antimony.

TAke Four Ounces of *Antimony* in very Fine Powder; Put it into a large Matraſs; pour upon it one Pound of *Aqua Regis* by Four Ounces at a time, ſet it upon a Sand-heat in a Chimney, that the Fumes may aſcend without offence; Make a ſmall Fire, and let it ſtand in a heat of digeſtion Ten or Twelve hours, ſhaking it once in Two or Three hours; Then let it cool and put to it a Gallon of Fountain Water, which you muſt pour off before it ſettles; put to it more Water: ſtir it and pour it to the other before it ſettles, repeat this Operation till nothing remains in the Matraſs but a Yellow Powder, which is the combuſtible *Sulphur* of *Antimony*; Let the white powder ſettle, and decant the Water, and by ſeveral Ablutions make the *Magiſtery*, inſipid, dry it, and Keep it for uſe.

Its operation is more Cathartick than Emetick, ſometimes it operates by Sweat.

It is uſed in Apoplexies, the Palſie, and Hypochondriacal Diſtempers.

Its Doſe is from Five to Fifteen Grains.

Poterius his Cordial.

TAke *Regulus Martis* in fine Powder Four Ounces, of Gold dissolved in *Aqua Regis* one Ounce and an half; Let the *Aqua Regis* be drawn from the Gold, then mix it with the *Regulus*; Put to the Gold and *Regulus*, twelve ounces of Nitre; Mix all Exactly, and put it into a red hot Crucible by a spoonful at a time; Let it stand in a melting heat an hour, then let it cool, and proceed, as you did in the *Antihecticum Poterij*, or *Ceruſſa Antimonij*: I have made it both with Gold and the anodine *Sulphur* of *Mars*; and the latter has been approv'd of as the better Medicine.

Its Operation is Diaphoretick, and It is said to be a purifier of the Blood, a strengthener of the Heart and Stomach, good against Malignant Fevers, the Small-Pox, and the Plague.

Its Dose is from Six Grains to Two Scruples.

If to one Ounce of this Magistery you put Twelve Ounces of *Spiritus Nitri Dulcis*, and let them stand Three days in Digestion in a Matrass, shaking them now and

and then, after which draw off the *Spiritus Nitri Dulcis*; and if you afterwards put upon it one Pound and an half of Spirit of Wine tartaris'd, and let it ſtand Twenty Four hours on warm Sand and Decant the Spirit of Wine, and laſtly ſet it in the Arch of a Glaſs-Houſe Five or Six Days, it will have aquir'd a red colour, and be more Diaphoretick.

Its operation is then Diaphoretick and ſometimes a little Cathartick; and I have heard it has cur'd the Venerial Pox and Gout, Kings-Evil, and Leproſie.

Its Doſe the ſame as before.

The Glaſs of Antimony.

TAke a Pound of *Antimony*, and reduce it into Fine Powder, and ſet it over a gentle Fire; calcine it in an Unglaz'd Pan, till it comes to be of an Aſh-Colour and ceaſes to Fume; you muſt keep it continually ſtirring, and if it ſhould run into Lumps, you muſt powder them again, and then proceed to finiſh the Calcination: When that is done, put the Calcin'd Antimony into a Crucible; ſet it upon a Tile in a Wind Furnace; put a thin Tile on the

Top, and cover it all over with Coles, and when 'tis brought to Fuſion, keep it ſo in a ſtrong Fire for an Hour; then put into it an Iron Rod, and when the melted Antimony which adheres to it, is tranſparent, powr it upon a ſmooth hot Marble, and when 'tis cold, put it up for uſe; This is *Vitrum Antimonii*, or *Stibium*.

Its Operation is Emetick, and one of the ſtrongeſt that is prepared.

Its Doſe is from Two to Eight Grains. It is uſed in Infuſion like *Crocus Metallorum*, and given in the ſame Caſes.

White Flowers of Antimony.

PRepare a Sett of Subliming Pots, and let the lowermoſt be of the Shape of an Earthen Body; it muſt be Twelve or Fourteen Inches high, and its Mouth Three Inches Diameter; In the middle of this Body muſt be a Perforation of an Inch and a quarter Diameter, exactly fitted with a Stopple of good Earth; Place this upon an Iron Bar in a naked Furnace, Nine or Ten Inches above the Grate; and cloſe the Body to the Perfo-

ration

ration with Lute and Tiles, only leaving Three or Four Regiſters of an Inch and a quarter Diameter, at an equal Diſtance. Then fit to it Three or Four Aludels of Earth, one above another, and upon the uppermoſt Aludel fit a Glaſs-Head with a Beak; Lute the junctures of the Aludels Body and Head; and to the Beak fit a ſmall Receiver un-Luted.

Kindle the Fire, and when the lower Pot is red hot, put in of Antimony in Powder about a Spoonful, with a Latin-ware Scoop made for that purpoſe; Keep up the Fire well, and when you perceive no more Fume to riſe into the Head, put in another Spoonful, and ſo continue till you have as many Flowers as you deſire; when all is cold, take off the Aludels carefully, and with a Feather wipe off the Flowers upon a Sheet of Paper, and put them up for uſe.

It is a ſtrong Emetick, and its violence is ſuch, that 'tis ſeldom given without Correction.

It is given to Lunaticks; alſo in Agues, and all intermitting Fevers.

Its Doſe is from Two to Five or Six Grains.

Flowers of Regulus of Antimony, with Sal Armoniac.

TAke *Regulus* of Antimony, and clean *Sal Armoniac ana* half a Pound, Powder and Mix them well; and in all things proceed as in making the other Flowers. When you wipe the Flowers from the Aludels; Put them into clean Water to dissolve the *Sal Armoniacum*, and wash the Flowers from the Salt; Dry them, and put them up in a Vial for use.

They are not so violent as the former, and given in the same Cases.

Antimonium Resuscitatum, or Antimony Reviv'd.

TAke the Flowers of Antimony and *Sal Armoniacum*, without separation; Put them into a Cucurbit, and to every Four Ounces of these Flowers, put of Distill'd Vinegar One Pound; Let them stand upon warm Sand in Digestion Eight Days; Then exhale the Distill'd Vinegar, and by Ablution sweeten the Flowers, which then will be of the Pristine

stine Colour of Antimony, and is accounted a very good Medicine.

Its Operation is Emetick and sometimes Diaphoretick.

It is administred in the Scurvey, Dropsie, Jaundice, Agues, Fevers and Consumptions.

Its Dose is from Four to Ten Grains.

Dr. B's. *Panacæa of Antimony.*

TAke of Antimony Six Ounces, of Nitre Ten Ounces, of Common Salt One Ounce and an half, and of Charcole an Ounce; Let them all be made into Fine Powder, and well mixt, and be put into a red-hot Crucible by half a Spoonful at a time, continue the Fire a quarter of an Hour after: Then either pour it into a Cone, or let it cool in the Crucible, and you will find Three Substances, *viz.* in the Bottom a little *Regulus*; above that a compact Matter, something like the Liver of Antimony, and upon the Surface, a more Spungy Mass; separate them one from another, and put by the *Regulus*; Powder the other two, and

waſh them a-part, till they have no Taſte of the Salts; dry them gently, and keep for uſe.

The uppermoſt Subſtance is counted the beſt, and is of a fine Golden Colour, when 'tis waſht. The middle Subſtance is not of ſo pleaſant a Colour, and works more Churliſhly. The *Regulus* is equal with the *Regulus* of Antimony.

Its *Operation* is Emetick and Cathartick, and is given in the *Venereal* Pox, Gout, Dropſy, Scurvy, and all Intermitting Fevers.

Its *Doſe* is from Two to Five or Six Grains.

☞ This is that which Mr. *Lockyer* aimed at in the Compoſition of his Pill, by which he got a good Eſtate.

The Panacæa of Antimony without Fire.

REduce Four Ounces of Antimony into a moſt ſubtle Powder; Put it into a Matraſs, and pour upon it One Pound of ſtrong Capital Lees of the Soap-Boylers: Set them to Digeſt on warm

warm Sand, Four or Five Days, and ſhake them often; Then add ſome warm Fountain-Water; ſhake it well about; let it ſtand Two or Three Seconds of Time, and pour it off into a clean Pan; Repeat that Ablution, till all the brown Powder is ſeparated from that which appears like crude Antimony; to which put more Capital Lees, and ſo proceed in all things as before, till all the Antimony is brought into a ſubtil brown Powder; which waſh well from its Salts; Dry it, and keep it for uſe.

Its *Operation* is ſometimes Diaphoretick, other times Diuretick; and alſo, Cathartick and Emetick.

Its Vertues are the ſame with other Antimonial Preparations; and is frequently given as a Succedanium to that call'd *Ruſſel*'s Powder.

Its *Doſe* is from Five Grains to an Ounce and an half, or Two Scruples.

The Butter, or Icy Oil of Antimony, and its Cinnaber.

TAke of Antimony and Mercury Sublimate *ana* Two Pounds; Powder and Mix them well; Put them into a coated Retort, which must not be charg'd above a Third Part; Set it upon an Iron Bar in a little flat Dish with some Sand in it in an open Furnace; Make a small Fire at first, but increase gradually to the Second Degree, and the Butter will rise into the Neck of the Retort, which melt into the Receiver with Live Coles. Keep the Fire still in that Degree, till you perceive the Neck of the Retort tinged Red: Then change the Receiver, and increase the Fire to the Third Degree, where keep it two Hours, after that give two Hours Fire of the Fourth, and it will raise the Cinnaber into the Neck of the Retort: When all is cold, take it out of the Furnace, break the Retort, and take out the Cinnaber.

It is only used Externally as a Caustick.

Mercurius Vitæ.

LET the Butter be melted, either by the Air, or a gentle Heat: Put it in a clean Retort; Set it in a Sand Furnace, and by a Fire of the Second Degree Diſtil it; The Butter will be made more white and pure, and by this Rectification be ſeparated from ſome dirty Fæces, which will remain in the bottom of the Retort. Melt all the Rectify'd Butter into the Receiver, and put to it warm Fountain-water; ſtir it well with a clean Stick; when 'tis ſettled, pour off by Inclination, and keep the firſt by; Put on more Water, ſtir, and let it ſettle; and ſo do till the Powder is freed from all ſaltiſh Taſte; then dry it gently, and keep for Uſe.

Its *Operation* is Emetick.

Its Vertues are the ſame with the *Flowers of Antimony.*

Its *Doſe* from two to eight Grains.

Mineral

Mineral Bezoar.

TAke four Ounces of Rectify'd Butter of Antimony; Put it into a Retort, and to it twelve or sixteen Ounces of Spirit of Nitre, by two or three Ounces at a time. Place the Retort in a Chimney, to avoid the hurtful Fumes: When all the Spirit of Nitre is in, and the vehemence of its Action over, put it in a Sand Furnace; Fit and Lute a Receiver to it, and give gradual Fire to the Third Degree. When it ceases to drop, let out the Fire, and when cold, take it out, and keep it in a Glass well stopt from the Air.

Its *Operation* is Sudorifick; which Operation it performs more sensibly than Antim. Diaphoret.

It is counted a great Resister of Poison, and given in all Pestilential Distempers.

Its *Dose* is from ten Grains to two Scruples.

Some Calcine it in a Crucible, after it is taken out of the Retort: Others think it better to let that part of the Spirit of Nitre it holds, to remain with it.

Oil

Oil of Antimony, with Sugar-Candy.

TAke of Antimony and Sugar-Candy, of each one Pound; Let them be well powdered, and mixt with three Pound of clean dry Sand; Put them in a Retort, leaving it above half empty; Set it in a Sand Furnace, and with a Fire of the Firſt Degree; let the Flegm Evaporate, till the Drops come Acid. Then throw away that which is Diſtill'd, and fit the Receiver again, which Lute with a Bladder dipt in the White of an Egg; Increaſe the Fire to the Second Degree, and ſo keep it one Hour; then to the Third, in which continue it two Hours; and ſo proceed to the Fourth two Hours more, which will finiſh the Operation: When all is cold, take out the Liquor, and keep for Uſe.

It cleans Ulcers and Teters, it alſo kills the Itch.

The Eſſence of Antimony.

TAke the Flowers of Antimony, or *Mercurius Vitæ*, and *Sal Mirabile*, of each one Ounce; of clean Cryſtals of Tartar two Ounces; of Sugar-Candy four Ounces;

Ounces; Powder and grind them well together; Put them in a clean Pan, with three Pints of Spring-water; Let them ſimper over a Fire, for eight or ten Hours, and ſtir them often. Filter the Liquor whilſt it is warm, and Evaporate it in a gentle Heat, to the Conſiſtence of a Syrup. Then put to it a Pint of Spirit of Wine; let it ſtand in Digeſtion in a Matras well ſtopt, three Days, in which time it will be well tinged: Then by gentle Inclination, pour off the Tincture into a Body, to which fit a Head and Receiver, and draw off one half of the Spirit of Wine; that which remains in the Body put into a Vial, and keep for Uſe.

Its *Operation* is Emetick and Cathartick, and is given in all Diſeaſes wherein Antimonial Medicines are proper.

Its *Doſe* from five, to fifty Drops, in Ale, Wine, Milk, or Water.

The Tincture of Antimony.

PUT half a Pound of Salt of Tartar into a Crucible, ſet it in a melting Furnace, and heat it till it melts; Then put to it (by a ſpoonful at a time) four ounces of Antimony in Powder; let it ſtand in a ſtrong melting heat, the ſpace of

of One Hour; Take it from the Fire and put it into a warm Mortar; beat it to Powder, and whilſt warm, put it into a Martraſs; Pour upon it Tartaris'd Spirit of Wine one Pound, and invert a Glaſs into the mouth of the Cucurbit; lute it well, and ſet it in Digeſtion Three or Four Days, in which time the Spirit of Wine will be well tinged, take it from the heat, ſet it on one ſide to ſettle, and decant it into a dry Vial, which keep well ſtopt for uſe.

Its *Operation* is Diaphoretick and Diuretick, It opens the obſtructions of Women, is good againſt Hypochondriack Melancholy, Small-Pox, and Malignant Feavers.

Its Doſe is from Ten to Fifty or Sixty Drops.

Tinctura Regalis.

TAke of Copper in little pieces Two Ounces, put it iuto a Crucible, ſet it in a melting Furnace; when it is red hot, put to it (in groſs Powder) Fourteen Ounces of *Regulus Jovis*; Let them melt well together the ſpace of a quarter of an hour; Then caſt them into a warm greas'd Cone, when cold, beat them into fine Powder, which muſt be put (by

a

a ſpoonful at a time) into double its weight of Melted Salt of Tartar, when it is all in, ſhut the door of your Melting Furnace, and keep it in the ſtrongeſt Fire you can give for Two or Three hours: Then take it from the Fire: and pour it into a clean warm Iron Mortar, beat it to Powder whilſt warm, and before it attract any Air, put it into a Matraſs wherein there is One Pound of Spirit of Wine tartaris'd; Lute it as you did the *Tinctura Antimonij*, and in all things proceed as in that Tincture.

Its operation is Sudorifick and Diuretick: ſome think it almoſt an Univerſal Medicine, and indeed I have known it ſucceſsfully us'd in ſeveral diſtempers.

Its Doſe is from Twenty to an Hundred Drops.

Obſervations

Observations.

THe Melting Furnace must be placed in a Chimney, and have a care you do not bring any spark of Fire along with the Spoon you project the mixture with, if you do, it will set all the Composition on Fire. *Antim. Regulus.*

If you do not pass the Liquor through the Strainer while it is hot, it will coagulate, when it has past the Filter, and when you precepitate the Sulphur, remove it into some place where the Stench may not offend you. You must wash it very often with warm water, to dissolve the Salts which adhere very strictly to it. *Sulph. Auratum.*

Nails are better then Filings of Iron, because they lie more hollow, giving way for the Antimony to mix and melt more easily with the *Mars.* *Regulus Martis.*

If you give this *Regulus* Two or Three Fusions more, and in each Fusion cast one Ounce and an half of Nitre into it, and do so as long as the Nitre meets with any Sulphur to cause a flame, the *Regulus* will be as white as Silver. *Regulus Jovis.*

I lessen the usual Quantity of Nitre, and in its place substitute Common Salt, *Crocus Metalorum*

which both helps Fusion, and causes a better Separation of the Crocus from the Scoria.

Antimon. Diaphoret. You must in this, as in most Calcinations of Antimony with Nitre, be careful not to bring a Spark of Fire from the Furnace to the Mixture; and after Calcination, beware you put not the Crucible into Water, when it is too hot, least it fly all about your Face.

Cerussa Antimon. In the *Cerus* there is no danger of firing the Mixture, because the Combustible Sulphur is spent in making the *Regulus*.

Antihect. Poterij. The Jupiter gives it a Blewish Colour; and that is all in which it Differs from the *Cerussa Antimonij*.

Antimonium Medic. Let the Salts be very dry when they are mixt with the Antimony, and after they are Sufficiently melted together, and become cold, make them into a subtle Powder, before you wash off the Salts.

Magister. Antimonij. Make the Dissolution in a Chimney and in a large Vessel, because the Ebullition is so Violent, that if the Vessel be not large, the matter will boil over.

Poterius. his Cordial If you will not be at the Charge of Gold in this Preparation, the Anodine Sulphur of *Mars* is a good *Succedaneum*.

Its

Vitrum Antimon.

Its Calcination requires Care and Patience; The Fusion must be strong, and the Quantity propos'd in the Process, requires at least Two hours Fire.

Flores Antimon.

This Operation requires Attendance; for If you let the Heat slacken you will loose both Time, and Fire considerable before you raise the Flowers again.

Flor. Reg. Antimon.

If you desire but a small quantity of these Flowers, you may perform the Operation in a Sand Furnace, by putting the matter into a Retort, fitting to it a Receiver, and proceeding with gradual Fire, as you do in the Preparation of *Ens Martis*.

Antimon. resuscitat.

If you make this Medicine of the Flowers of *Regulus*, it will be milder than that made of crude Antimony, because much of its foul Sulphur is evaporated in the Preparation of the Regulus.

Dr. B's. Panacæa Antimon.

If you mix Ten Grains of the finer sort of this Preparation with one Ounce of white Sugar-candy in impalpable Powder, and will make them up into a Mass, you may divide them into an Hundred Pills, and One, Two or Three of these will work gently by Stool and Vomit. The Mucilage of *Gum Tragac.* is proper to make up the paste.

Panacæa Sine igne.

Reduce the Antimony into most subtil powder, and see that the Capital Lees

and Vessel be clean, and you cannot Err in this Operation.

Butyrum Antimonij. When you mix the Sublimate with the Antimony muffle your self for a Defence against the Steam of the Sublimate; and also carefully avoid the Fumes of the Butter when you change the Receiver.

Mercurius Vitæ. If you have a Pound of *Butyrum*, Put not above four Pound of water to it for the first Ablution: stir it often with a clean wooden Spatula to break its Coagulum; Then let it stand to settle, and carefully pour off the Water, of which by Rectification is made the Philosophick Spirit of Vitriol.

Bezoard. Mineral. Lute not on the Receiver, till the violence of the Fumes are over, lest when the Fire augments its Motion, it break the Retort or Receiver. Do not exceed the third Degree of Fire, nor let it stand long in after the Spirit of Nitre is drawn off, to prevent discolouring the *Bezoardicum Minerale.* The Spirit of Nitre being now impregnated with the Spirit of Common Salt which was in the *Butyrum* is become an *Aqua Regia*, and will dissolve Gold, and is call'd *Spiritus Nitri Bezoardicus.*

Ol. Ant. cum Sacharo. The Sand is mixt with the Antimony and Sugar, to hinder the matter from boiling

boiling over, which it would be very apt to do without the Sand; If you would have it freed from its Empyreum, and fit for internal use; weigh the Oyl and Spirit; and put to it a Third part its weight of *Spiritus Nitri Dulcis.* Set it in a Matras, upon warm Sand, in Digestion Four or Five days, Then put it into a long bodied Retort, or Cucurbit, with its head and Receiver; Lute the joynts, give gradual Fire to the Third degree, which Keep till it leaves dropping; Then put up the Spirit for use.

It is accounted an excellent remedy against all intermiting Feavers, Especially Quartane.

Its *Operation* is gently Emetick, and Cathartick.

Its *Dose* from Five to Fifty drops.

As the Liquor Evaporates in boiling, take care to supply it with clean warm Water till it is fit to be Filtred. *Essentia Antimonij.*

If you would produce this Tincture in less time then the Process directs, let it stand in such a Heat as will keep the Spirit of Wine simpering five or six hours, and the Tincture will be Extracted. *Tinct. Anti.*

Tinct. Regal. In place of two Ounces of Copper, if you put two Ounces and an half of the *Scoria* of Copper (which the Brasiers call *Spill-dust*) you will have a more glorious Tincture.

Some are of Opinion, That the Emetick Quality of Antimony is not to be so far destroyed by any Preparation that can be made thereof, but that it will return again when it has bin kept for some time, or expos'd to Air; but I have kept several of the foregoing Preparations, and especially the Tinctures, many Years without any sensible alteration.

CHAP.

CHAP. X.

Of Lapis Calaminaris.

IT Dries, Binds and Cleanses, fills Ulcers with Flesh, and is a good Opthalmick; It Incorporates with Copper, and makes Brass: It is found in the *North Parts* of *Germany*, in the *North* of *Wales*, and in the *West* of *England*. Internally it is not much us'd; although it affords one of the best Emeticks and Diaphoreticks commonly known.

Preparations of Lapis Calaminaris.

The Magistery of Lapis Calaminaris.

TAke four Ounces of *Lapis Calaminaris*, beat it into fine Powder; Put it into a Matras, and Pour upon it one Pound of Spirit of Salt; Let them digest upon warm Sand fourty eight Hours; Filter the Dissolution, and Precipitate the Magistery with Spirit of Urin; free it

from its Salts by ſeveral Ablutions; dry it gently, and keep for Uſe.

Its *Operation* is Emetick and Cathartick, and is us'd in all Caſes wherein Antimonial Emeticks are proper.

Its *Doſe* is from three to eight Grains.

Diaphoretick Calaminaris.

BEat four Ounces of *Lapis Calaminaris* into fine Powder; Put it in a Matras (which place in a Chimney) and put to it (by three or four Ounces at a time) one Pound of Spirit of Nitre; Let it ſtand covered from Dirt falling into it twenty four Hours; then decant the clear Liquor, which put into a Retort; ſet it in a Sand Furnace, and give it gradual Heat to the Third Degree, and ſo keep it till no Drops fall from it. When all is cold take it out of the Retort, and keep for Uſe.

It is a good Sudorifick, and anſwers the Purpoſes of Antimonial Diaphoreticks. It is alſo an Excellent Collyrium; one Ounce of it being infus'd twenty four Hours in half a Pint of white Wine, and a drop or two of that Infuſion put into the Eye, three or four times a Day.

Its *Doſe* from ten Grains to half a Dra.

Obſer-

Observations.

LET the Spirit of Salt be Rectify'd, because in the first Distillation there is mixt with it a foul Sulphur or Flower, which may discolour the Magistery. *Magister. Lapis Cal.*

Some Persons will wash the Diaphoret. when taken out of the Retort; others will put to it three times its weight of Tartaris'd Spirit of Wine, and let it stand in Digestion twenty four Hours, shaking it often, and then let it simper one Hour, and when cold, pour off the Spirit of Wine, and dry by a gentle Heat the Diaphoretick, which they keep for Use, *Calamin. Diaphoret.*

It is a good Diaphoretick.

Its *Dose* from ten, to fourty or fifty Grains.

CHAP

CHAP. XI.

Of VITRIOL.

OF *Vitriols* we have six Sorts Vendible among us (*viz.*) *Hungarian*, *Dantzick*, *Roman*, or *Cyprus*, *English* and *Germain*, and likewise *White Vitriol*. It is said they are all Compos'd of an Acid Salt, and Sulphureous Earth; but it is most certain that there is a Proportion of Metal in them all, as it evidently appears by rubbing *Dantzick*, *Hungarian*, *Roman*, and *White Vitriol*, upon the Blade of a Knife, which they will leave tinged of a Copper Colour. And in *London*, it is well known, that all the Old Iron which is gathered by many poor People, are sold to the Copperas-Houses at *Rotherhith* and *Deptford*, which they boil up with the Dissolution of the *Marchasite Pyritis*, or *Fire-stone*.

In Colour the *Hungarian* and *Dantzick* are Green, but the first is the deeper: The *Roman* or *Cyprus* is Blue; The *English* is yet of a Paler Green than either. The *White* takes its Name from its Colour. There is also a Red Vitriol, which is that of *Germany*, and yet of no great Use

Use among us. It is suppos'd to be a Green Vitriol, Calcin'd by a Subterranean Heat.

The Purification of Vitriol.

ALL *Vitriols* are made Pure by Dissolution, Filtration, Evaporation and Coagulation, or Crystalization. If you will Purifie them to the height, you must so often Repeat the former Operations, that by ten Days digestion between each Dissolution, there will settle no Fæces.

Calcination of Vitriol.

PUT what quantity of *Green Vitriol* you please into an Earthen Pot, make a gradual Fire under it, and as it heats, it will dissolve; continue the Fire, and increase it, till the Liquor is again Coagulated, and the Mass of a greyish Colour.

This is Calcin'd Vitriol, fit for some Uses: But if you design it fit for the Distillation of its Oil, or for *Calcanthum Rubefactum*

Rubefactum, you muſt continue it in a ſtrong Fire, till it is very Red.

It is us'd to ſtop Blood, being apply'd to the Wound.

The Diſtillation of Oil, and Spirit of Vitriol.

BEat the Colcothar to Powder, and ſift it through a corſe Hair Sieve, then put into thoſe Pots call'd Long Necks, five or ſix Pound a piece of Calcin'd Vitriol, and place them in a Reverberatory Furnace; Lute on the Receivers, with Lutes made of Clay, Sand, and cut Flax; then make a ſmall Fire under the Grate, with Charcole and Small-cole; ſtop the Fire-hole of the Furnace, and the Aſh-hole ſlightly: Let the Fire ſmother ſo ſix or eight Hours, to dry the Furnace and Junctures of the Receivers: Then put the Fire upon the Grate, and keep it in the firſt Degree ſix or eight Hours; increaſe it to the Second, four or five Hours, and ſo to the Third, which will raiſe white Clouds into the Receiver; continue it ſo long as you ſee white Clouds come over; when they begin to abate, augment it to the Fourth

Fourth Degree in its Extremity, and continue it till the Vitriol emits no Fumes.

Then let all cool, and carefully take off the Receivers, and put the Diſtillation into a Retort, which place in a Sand Furnace; fit a Receiver without Luting; make a gentle Fire, which will raiſe a little inſipid Flegm, which has a Sulphureous Smell; put that into a Vial, and ſtop it. Put on the Receiver again, and continue the Second Degree of Fire, and ſo paſs on to the Third, which continue till Fumes riſe into the Receiver, and you perceive the Oil in the Retort to be clear and white, as Rock-water: Then let all cool, and put the Spirit by it ſelf, and the Oil left in the Retort by it ſelf alſo.

The Sulphureous Spirit is given in Palſies, and Diſeaſes of the Lungs. The Spirit is commonly mixt with Juleps. In *Phyſick* the Oil is of the ſame Uſe as that of the Spirit, in an Eighth, or Tenth Part the Doſe.

Gilla Vitrioli, commonly call'd, Salt of Vitriol.

Diſſolve what Quantity of white Vitriol you pleaſe in warm Fountain-Water, Filter it, and let it ſtand warm twenty

twenty four Hours to ſettle its Fæces: Decant it off from the Sediment, and Evaporate it to a Pellicle in an Earthen-Pan. If you ſee ſtill ſome yellow Fæces at the bottom of the Pan, pour it out into a clean Veſſel, by gentle Inclination, and ſet it two or three Days in a cold place to ſhoot into Cryſtals.

Its *Operation* is Emetick.
Its *Doſe* from ten Grains to one Dram.

There is a Salt Extracted with warm Water out of the *Caput Mortuum* of the Oil of Vitriol, which is very little (if at all) in Uſe.

The Compound Cathartick Salt of Vitriol, and its Sulphur.

DIſſolve what Quantity you pleaſe of Common Martial Vitriol; Filter the Diſſolution, and put it into a Matras, ſet it in Digeſtion fifteen Days; if any Fæces fall in that time, carefully decant the Liquor from them into a clean Veſſel, and drop into it as much Oil of Tartar, as will Precipitate all its Sulphur, which you will ſee fall in a brown Powder. Let it ſettle, and pour off the clear Liquor.

Liquor. Evaporate it to a Pellicle, and ſet it by in a cold place to ſhoot into Cryſtals.

The *Operation* of the Cryſtals is Cathartick and Diuretick.

Its *Doſe* from ten Grains to 2 Scruples, or one Dram. It is a very Aperitive and Cleanſing Medicine. The Sulphur is the ſame with that of *Mars* before-mentioned.

Aqua Stiptica.

TAke *Colcothar*, burnt Allum and Sugar Candy *ana* one Drachm, Urin of a ſound Perſon, and Roſewater *ana* one Ounce; Plantane-water Four Ounces; Grind all well together in a Mortar till it is without the leaſt Lump; then put it into a Matraſs, and let it ſtand in Digeſtion Twenty Four Hours; let it ſettle, and pour it from the Fæces. If you would have it more *Stiptick*, put one Drachm of the Liquor left after the laſt ſhooting of *Sal Chalibis*, or *Vitriolum Martis* to it.

Spiritus

Spiritus Vitrioli Dulcis.

PUT into a Matrass, Spirit of Wine Two Pounds, and pour into it one Pound of Oil of Vitriol, by an Ounce at a time; fit and lute on a Head and Receiver; kindle the Fire, which increase gradually to the Third Degree, till no Drops fall from the Nose of the Head; Then cease the Fire, and put what is Distilled into a Vial well stopt.

Some will return the Spirit upon the Black Matter left in the Body, and draw it over again; and so do three or four times till nothing is left but a dry, black Crust.

Its Operation is Diaphoretick and Diuretick.

Its *Dose* from Twenty to an Huundred Drops, in a large quantity of Liquor.

The Diaphoretick Spirit of Vitriol.

TAke of Salt of *Tartar* and burnt *Harts-horn ana* Two Ounces; put them in a Matrass, and add to them, by little and little, half a Pound of the foregoing *Spiritus Vitrioli Dulcis*; set the Mixture in a Sand Furnace, fit to it a Head and Receiver, lute well the Junctures,

tures, and draw it off to a dry bottom, in a Fire of the Second Degree: Then take off the Spirit, and put to it Saffron and Cochineal *ana* one Ounce, *Virginia Snake-root* half an ounce, ſtop the Veſſel well; ſet it upon warm Sand to Digeſt Twenty Four Hours, ſometimes ſhaking it; afterwards let it ſettle, and keep it in a Vial well ſtopt.

Its *Operation* is Diaphoretick and Diuretick.

It is given in all Fevers, and even in the Plague it ſelf, with good Succeſs: Alſo in Dropſies and the Jaundice. It powerfully opens Obſtructions, and cleanſes the Lungs.

Its *Doſe* is from Thirty to one hundred and twenty Drops.

The Medicinal Stone.

TAke common Green Vitriol half a Pound, and the ſame quantity of White Vitriol, of Allum twelve Ounces, Anatron or Sandiver, and common Salt *ana* one Ounce and a half, Salt of Tartar two Ounces: beat them groſly, mix them with four Ounces of Vinegar, and put all into an Earthen Pan, which will contain three times their quantity; ſet

them in a Fire to melt, and ſtir them often; when they begin to thicken, mix diligently of *Venice Cerus* four Ounces, and of *Bole Armoniack* two Ounces, both in fine Powder; keep them in the Fire, continually ſtirring 'till they grow hard; then let all cool, break the Pot, and put up the Stone for Uſe.

It Faſtens Teeth, Preſerves the Gums, Heals and Dries up Ulcers and Wounds, and is alſo us'd in Injections, and Eye-Waters.

The Sympathetical Powder.

TAke good *Engliſh Vitriol*, ſuch as we call *Bow-Copperas*, Purifie it as before directed, by two or three Diſſolutions, Filtrations, and Cryſtallizations; ſet thoſe Cryſtals in a clean Pan in the Sun, either of *June*, *July*, or *Auguſt*, ſo long till they are Calcin'd to Whiteneſs; when one ſide is Calcin'd, turn the other, and in a few Days the Cryſtals will crumble into Powder; if they do not, you may Beat, and Expoſe them again to the Sun, ſtirring them three or four times every Day: At laſt beat them into very fine Powder, and again ſet them in

in the Sun, ſtirring as before, for two or three Days more, in which time they will be very white: Then take in the Matter, while the Sun ſhines hot upon it, and keep it from the Air in Glaſſes well ſtopt, and in a dry place.

It is a Mild, but a Powerful *Stiptick*, always ſucceſsfully apply'd in Stopping of Blood, either at the Noſe, or of Wounds, and where there is no Fracture of the Bone, will heal.

The Royal Stiptick.

UPon four Ounces of Sympathetick Powder, affuſe half an Ounce of good Oil of Vitriol; ſtir them well in a Glaſs Mortar, with a Peſtle of the ſame, and let them ſtand twenty four Hours on warm Sand, in a wide-mouth'd Glaſs; Grind this Mixture again with a little Spirit of Wine, and put it in a Matras; pour upon it more Spirit of Wine, to make that already us'd, a Pint. Lute it well, and let it ſtand fourty eight Hours in Digeſtion, often ſhaking it; then let it ſtand to cool and ſettle, and decant the Spirit of Wine, which keep well ſtopt. Remove the Cucurbit or Matras, into a Sand Furnace; Lute on its Head

and Receiver, and drive over the Helm, all that will rise in the Third Degree, which also keep by it self; Let all cool, and take out what is left in the bottom, powder it, and put it into a Cucurbit; Pour upon it Distill'd Rain-Water one Pound; set it on warm Sand fourty eight Hours, and shake it often; then let it settle, decant, and keep it for Use.

The Impregnated Spirit and Water may be us'd apart, or mix'd; and if you would add strength to the Mixture, you may put some of the Acid Spirit drawn off, after the Spirit of Wine was Decanted: But if you would make the best *Stiptick Powder*, put equal Parts of the Impregnated Spirit of Wine and Water, and Evaporate to Dryness.

It is both a *Powerful Stiptick*, and one of the best *Vulneraries* in the World.

Observations

Obſervations.

IN Calcination begin with a very gentle Fire, till the Vitriol is melted; then increaſe leiſurely, 'till it begins to Cruſt about the ſides of the Veſſel; otherways you may crack the Pan, and the Liquor will run out; but after it is Coagulated about the ſides of the Pan, you may increaſe the Fire boldly. *Calcinat.*

If the Vitriol be only Calcin'd to greyneſs (as ſome direct) it will Coagulate in the Pots, and become a hard Maſs, ſo that the Fire (though never ſo vehement) is hindred from acting upon its Particles, by the Compactneſs of the Matter, and will never raiſe the full Strength of the Spirit in twenty Days time; therefore it ought to be Calcin'd to Redneſs, and beaten into Powder, and put in the Pots before it Attracts Air. *Diſtillat.*

The *Gilla*, or (what we call) Salt of Vitriol, ought to be diſſolved in no more Water than will keep it from Cryſtallizing whilſt it ſtands to ſettle, *viz.* Two Pound, or Two Pound and a half of Water, to one Pound of Vitriol, and that Filter'd while it is warm. *Gilla Vitri.*

Cathartick Salt of Vit. The Long Digestion is to make the more gross Metallick Part settle to the bottom; the better it is Separated from that Metallick Part, the less Emetick, and more Cathartick it is rendred. The Precipitate Matter, must by many Ablutions, be rendred Tastless, and gently dried.

Stiptick Water. The Liquor left after the shooting of *Vitriolum Martis*, is both more Stiptick and Vulnerary (by its Impregnation with the Sulphur of *Mars*) than the Oil of Vitriol is of it self.

Spirit Vit. Dulcis. If you Cohobate the Spirit. *Vitrioli Dulcis*, upon the black Residence left in the bottom of the Retort, it Exalts its Vertue.

Diaphoret. Spirit of Vitriol. Let the Salt of Tartar be clean, and the Hart's Horn well burnt, and put not above one Ounce of the Dulcify'd Spirit of Vitriol to the Salt and Calx at a time.

Lapis Medicament. The Vessel in which you make it must be three or four times bigger than will contain the Ingredients, by reason of the great Ebullition which will arise from the mingling of the Acid of Vitriol, and Distill'd Vinegar, with the Salt of Tartar, and Calx of Lead; but especially when you put in the *Cerus*, you must do it warily,

rily, and keep it down by continual stirring.

You must so expose it to the Sun, that the Rain may not fall upon it, lest it should wash it away. Some think it sufficiently Calcin'd in six or seven Days, exposing it only six or eight Hours in a Day; but it has been observ'd, That it is better perform'd by giving it thirty or forty Days Sun. *Sympathet. Powder.*

I have known some direct the putting of Distill'd Vinegar to the Dissolution of Vitriol, to cause a Precipitation, but I could never find so great a disagreement between them as to be capable to effect it. I fear such have either wrote after others, or foisted in their own Conceits, without consulting an Elaboratory, and it has cost me much Time and Money to follow them to no purpose. *The Royal Stiptick.*

CHAP. XII.

Of Sulphur, or Common Brimstone.

IT is brought to us from *Italy*, and some of the *West-India-Islands*, being Generated of a Fat, Resinous Substance, full of an Acid, Vitriolick Spirit, as appears by its Spirit made with a Glass Vessel, resembling the shape of a Bell, from which it takes the Name of *Spirit of Sulphur per Campanum*, differing very little from that of Vitriol.

We have it in three Forms, *viz.*

First, *Sulphur Vive*, which come to us as it is dug out of the Earth, and valued at the dearest Price of the Three, for no other Reason, but that it is less Vendible than the other.

Secondly, *Mineral Rough Brimstone*, which by Melting is Separated from a great deal of Insignificant Earth, which the Sulphur contained.

Thirdly, That cast into small Rolls, commonly Sold by Grocers and Chandlers, which is said to be mix'd with Rosin, or some other Bituminous Substance, and

and by Experience found to be the worſt ſort for the making either Flowers or Oil; the rough Mineral Brimſtone is the beſt, for the aforeſaid Uſes, as having leſs Earth than *Sulphur Vive*, and not being mixt with any Heterogeneous Particle.

Preparations of Sulphur.

Flowers of Sulphur.

TO make this to any Advantage, it muſt be Sublimed in an Arched Room, inſtead of a Glaſs or Earthen Receiver, and one, two, or three Hundred Weight (according to the Magnitude of the Room) may be put in at a time. You muſt have a great thick Iron Pan, called a Tampin, to put the Sulphur in, which muſt be placed immediately over the Grate, and about a third part of the Diameter of the Tampin left open above its brim, to ſuffer the Fumes to come into the Arch where they Condenſe into Flowers: The Arch ought to be at leaſt eighteen, or twenty two Inches thick; and that Cramp'd together with Iron, to reſiſt the Force of the Fumes.

If

If you design your Furnace to Sublime one hundred Weight of Flowers at a time, your Pan must be capable of holding one hundred and a quarter; your Arch five Foot high, three Foot broad, and five Foot long; and its inside and floor to be set with glas'd Tiles: In the end, or side of the Furnace, you must have a Door, which must be two Foot square; it must be strongly Barricado'd, and a little Hole in it of a quarter of an Inch Diameter, which must be exactly stop'd with a Plugg, by which you may know when all is Sublim'd: For when you think the Operation is almost at an end, pull out the Plugg, and if the Fume come not forcibly out, the Operation is over, but if you find a strong Fume, with some Noise, continue the Fire till all is over.

Then let all cool twenty four Hours, before the Door is opened, and then go in, and with a Wing, or clean Brush, wipe the Flowers into a heap, and take them out for use.

It may be made in less quantity in Vessels of another Form: A Description of both you will see in the Preceding Plate.

It is a good Pectoral Medicine, and us'd in other Physical Preparations.

Its *Dose* from ten Grains to a Scruple.

The

The White Flowers of Sulphur.

TAke Salt Petre fix'd with Charcole (as hereafter) half a Pound, or but four Ounces; of clean Mineral Sulphur, twice its quantity, grind and mix them well together, then put them into a Retort, and ſet it in a Sand Furnace; fit to it a Receiver, but Lute it not; make a gentle Fire under it, which gradually increaſe to the Third Degree, and ſo keep it till all the Flowers riſe; which you will know by the upper Part of the Retort above the Sand, being clear.

Its *Uſe* and *Doſe* is the ſame with the other. But ſome are of Opinion that it far exceeds the other Flowers in Vertue.

The Milk of Sulphur.

TAke clean Salt of Tartar one Pound, of Flowers of Sulphur ſix Ounces; grind them well together in a Stone Mortar; then put them into a ſtrong Earthen Pan, and add of Fountain-Water eight Pound: Set this Mixture over ſome kindled Coles, and by degrees make it boil, till the Liquor is very red, which will

will require three or four Hours (as the Water waſtes, ſupply it with new warm Water) Take it from the Fire, and before it is quite cold Filter it; then drop into it Diſtill'd Vinegar, which will cauſe the red Liquor to be muddy, and a white Powder will Precipitate; when the firſt Precipitation is fall'n, drop in more Vinegar, and ſo proceed till you ſee the Vinegar will not make the Liquor muddy any more. After this, let all ſettle, and by gentle Inclination pour off the Liquor; Put Fountain-water to the Magiſtery; ſtir it well about, and let it ſettle; pour it off as before, and ſo proceed with ſix or eight Lotions, till the Powder is Inſipid, and free from its Urinous Taſte.

Its *Operation* is the ſame of the Flowers.

Its *Doſe* from twenty Grains to three Scruples and a half.

The Milk of Sulphur, with Quick Lime.

TAke one part Sulphur, and two parts of Quick Lime; Grind them well together, put them into an Iron Kettle, with ſix Quarts of Water to every three Pounds of the Mixture, and boil it

it till the Liquor be as red as Blood; ſtrain it (whilſt it is warm) into a Veſſel, either of Glaſs or Earth, and let it ſtand to ſettle: What is not very clear Filter; but if it be clear, decant it into a glaſs Veſſel, and drop into it ſome warm Urine, which will Precipitate the Diſſolution: Waſh it, as you did the former, and it anſwers to the ſame purpoſes.

Balſam of Sulphur, with Oil of Olive.

TAke of the Flower of Sulphur four Ounces, Salad-Oil one Pound; Put them in a Pipkin which will contain about three times their Quantity; Set them over a Fire, and make the Matter to boil gently; keep it continually ſtirring with a wooden Spatula, for the ſpace of an Hour and half, till it is quite cool, and put it up for Uſe.

It is given in Coughs, Colds, Aſtmah's, and Wheeſings, Ptiſicks and Conſumptions: And Externally to heal and dry Ulcers: It eaſes the Pains of the *Gout*.

Balſam

Balſam of Sulphur, with Oil of Turpentine.

TAke four Ounces of Flower of Sulphur, and one Pound of Oil of Turpentine; Place the Mixture in a Sand Furnace, and ſtop the Matras looſly with another Glaſs; give a ſmall Fire for one Hour, then increaſe it till the Oil boils gently, in which degree keep it three or four Hours: Then let it cool, and pour off the Impregnated Oil from that which is not diſſolved.

It is a Nauſeous, but an excellent Medicine for Ulcers of the Lungs.

Its *Doſe* from five, to fifteen, or twenty Drops.

The Balſam of Sulphur, made with Oil of Anniſeed, is perform'd after the ſame manner, and is more grateful to the Palate; alſo that with Oil of Amber, Juniper, *&c.*

Balſam of the Sulphur of Mars.

TAke clean Filings of Iron, or broken Needles, one Pound; Put them into a Cucurbit, with Spirit of Salt five Pound; Let it ſtand in a Digeſtive Heat five

five or ſix Days; in which time the Iron will be almoſt all Diſſolved; Filter and remove it into a Glaſs Retort; Place it in the Furnace, with a great deal of Sand about it; give Fire of the firſt Degree for one Hour, augment it to the Second, which continue till you cannot perceive any more Drops to fall: Then change the Receiver, and increaſe the Fire to the Third Degree, for one Hour, and ſo paſs on to the Extremity of the Fourth, and keep it there four or five Hours, in which time you will have red Flowers aſcend into the Neck of the Retort, and ſome yellow Spirit come into the Receiver. Let all cool, and remove the Veſſels. In the Receiver you will have about four Ounces of a yellow Spirit: And (if you have proceeded regularly) about four Ounces of Foliated red Flowers in the Neck of the Retort. Take of the Flowers three Ounces, of the yellow Spirit one Ounce; Put them into a Matras; affuſe upon them eight Ounces of Oil of Turpentine; Let them Digeſt upon warm Sand twenty four Hours; then augment the Fire, ſo as to make the Matter ſimper for two Hours. Let all cool, and put it carefully from the Fæces for Uſe.

I have heard it Affirm'd to be one of the beſt Vulneraries in the World, and ſeen wonderful Effects of it, both Internally and Externally.

It

It is given in all Diſtempers of the Breſt and Lungs, the Stone, and Ulcers of the Reins; and all other Internal Ulcers whatever. It alſo Cicatriſes and Heals External Ulcers to a Miracle.

Its *Doſe* is from ten, to fifty or ſixty Drops.

Liver of Sulphur.

TAke Flower of Sulphur four Ounces, Pure Salt of Tartar two Ounces; Mix and melt them in an Earthen Diſh; keep them ſtirring till they are as red as Blood, without any white Specks. Take it out of the Diſh, and put it in a Glaſs cloſe ſtopt.

Of this is made the Tincture, Syrup, and Vulnerary Balſam, as followeth.

Tincture of Sulphur.

BEat the Liver of Sulphur (while it is warm) in a warm Mortar; Put it preſently into a Matras, and to four Ounces of the Liver, put one Pound of Spirit

Spirit of Wine; set them in Digestion twenty four Hours, and you will have a very Red Tincture; which put up in a Vial stopt for use.

It is given in all Distempers of the Lungs, and said to be a Preservative against Contagious and Pestilential Air.

Its *Dose* from fifteen to twenty five, or thirty Drops.

A Vulnerary Balsam of Sulphur.

TAke of *Hepar Sulphuris* four Ounces, of *Aloes Succatrine* one Ounce and a half, and of *Myrrhe* one Ounce, all in fine Powder; Put them into an Earthen Pot, and pour upon them one Pound of Balsam of Turpentine, with two Drams of Saffron; set them over a gentle Fire in Sand, which increase by degrees, till the Oil simper, and the Ingredients are dissolved; then let them cool, and strain the Balsam through Flannel, into a Glass, which keep for use.

It is said to be one of the best of Balsams for the Cure of Wounds and Ulcers.

Oil of Sulphur by the Bell.

IT is made of the Yellow Mineral Sulphur: There is requir'd to this Operation two wooden Frames, one Earthen Diſh, with a Hole in the middle, a flat Gally-pot, and an Earthen Poringer, to burn the Sulphur in, a wide-mouth'd Glaſs for a Receiver, and the Bell, or *Campane* Glaſs.

Set one of the wooden Frames upon two Bricks, and put the Diſh, with the Hole in its middle, upon it, and the flat Gally-pot in the middle of the Diſh, with the bottom upwards, upon which ſet the Poringer which contains the Sulphur. Support the ſecond wooden Frame upon two Bricks more, as you did the firſt, in which Frame a Hole muſt be made, fit for the Bell-Glaſs to reſt in, ſo that the Edges of the Bell be clear of the Wood.

When the Poringer (charged with Sulphur) is fitted, ſet the Sulphur on Fire with a red hot Iron; when it is all melted, ſtir it with a clean Tobacco-Pipe, or Iron-wire, to make it burn clear; then cover it with the Bell, and in three or four Hours time you will perceive the Oil to condenſe about the ſides of the Bell, and drop into the Diſh, and ſo into the Receiver.

When

When you perceive the Sulphur to burn dull, take off the Bell, and stir about the Sulphur with an Iron-wire, as before; then set the Glass again, and so proceed till you have as much Oil (or rather Spirit) of Sulphur, as you desire.

Its *Operation* is Diuretick, and it is given in Juleps, to give 'em an agreeable Acidity to qualifie the Heat in continued Fevers: Some ascribe greater Vertues to it, than is given to Oil of Vitriol; but I never could distinguish any difference more, than that one is the Vitriolick Spirit in Sulphur, and the other the Sulphureous Spirit of Vitriol.

Salt of Sulphur.

PUT four Ounces of *Sal Polychrestum*, Prepared as hereafter, in the Chapter of *Nitre*; Powder it in a Glass Mortar, with a Pestle of the same; Put it in a flat, wide-mouth'd Glass, and put to it two Ounces of Spirit of Sulphur; stir them well together with a clean Tobacco-Pipe, and set them in a gentle Heat of Sand to Evaporate; you will have a pleasant Acid Salt, which put up in a Vial for Use.

Its *Operation* is Diuretick and Cathartick.

Its *Dose* from one Scruple to one Dram and a half, in Broth, or any proper Vehicle. I have known it given to five or six Drams, and then it has given four or five Motions *per inferiora*, as most Salts will.

Observations.

Flower of Sulphur. THE yellow, rough, Mineral Brimstone is best for this Operation; you may have it at the Refining-Brimstone-House in *Petticoat-Lane*. For the first twelve or sixteen Hours, give but gentle Fire, so much as to make the Fumes rise, but not to boil over.

White Flo. of Sulphur. You may make use of Salt of Tartar, and Nitre powdered, mixt and melted in a Crucible, instead of fix'd Nitre, or Salt of Tartar; but you must not put into the Crucible above a Spoonful at a time, as you will see in the Chapter of Tartar.

Milk of Sulphur. You ought to make the Precipitation in some place where the Noisome Scent has

has a good Conveiance, either in a large Chimney, or in the open Air; for though it is not dangerous, yet it is as Offensive as a stinking House of Office.

Balsam of Sulphur, with Salad Oil.

The Vessel ought not to be fill'd above one third, least it should boil over, and take Fire with violence, and put you in Confusion. Have also a fit Cover to the Vessel ready, that you may smother it, if it should take Fire within the Pipkin.

Balsam of Sulphur, with Oil of Turpentine

This ought to be placed in a Chimney, because the Steam which comes from it, is as offensive, as that in the Precipitation of Sulphur.

Martial Balsam of Sulphur.

This might have been placed with the Martial Preparations, but being a Sulphur, and of the Nature of these Medicines, I have given it here.

The Liver of Sulphur.

This Operation ought to be Perform'd in a Chimney: you must keep it, after it is melted, continually stirring, till it is red as Blood, and have a Cover ready to suppress the Flame if it should take Fire.

Tincture of Sulphur.

You ought to make the Liver of Sulphur into fine Powder, in a warm Mortar, and put it into the Matras as warm as possibly you can, before it Attracts any Air; then presently put the Spirit of Wine to it, and fit a Glass to the Mouth of the Cucurbit, Lute the Joint well, and set it to Digest.

The Vulner. Balsam of Sulphur. The Pot in which you make this Balsam ought not to be fill'd above a third part; carefully stir it when it begins to Heat, lest it should boil over, and take Fire, which it is apt to do; have a Cover, and wet Clothes ready, against such an Accident.

Oil of Sul. by the Bell. After the Sulphur burns clear, and the Bell set over it begins to work, it will burn, and work well for five or six Hours, when the Flame begins to decrease, take off the Bell, and place it upon an Earthen Dish (which you must set by the Frame for that purpose) put in more Sulphur, and when it is all on Fire, stir it with a clean Pipe, and put on the Bell again; and so continue till all the Sulphur you design for Spirit be burnt.

Salt of Sul. This is not really the Salt of Sulphur, but Nitre Fix'd by Sulphur, and afterwards Impregnated with its Spirit.

CHAP.

CHAP. XIII.

Of ARSNICK.

IT is a Juicy Combustible Mineral Substance, consisting of Sulphur, and Corrosive Salts; of which there are three sorts, *viz. Yellow Arsnick*, called *Orpiment*, *Red Arsnick*, called *Sandarach*, and the *White*, properly called *Arsnick*. It is made of the Red, by mixing equal parts of *Sandarach*, and *Common Salt*, and Subliming them together.

The *White* is most us'd in Physick, the *Yellow* less, and the *Red* very little. It is one of the most Pernicious of Poisons, and so great an Enemy to the Balsam of Life, that it produceth strange Symptoms, as Convulsions, Swoonings, Gripes, Vomitings, Palpitation of the Heart, Intollerable Heat and Thirst, with Mortification of the part where it comes.

Preparations of Arsnick.

To Sublime Arsnick.

THE common way is to mix equal Parts of Arsnick and Salt decrepitate, in fine Powder; Put them in a Matras, in a Sand Furnace, within a Chimney, stopping the Mouth of the Matras loosly with Cotton, or Paper; make a gentle Fire, which increase gradually to the third Degree, and so keep till all is Sublimed: Six or Seven Hours time will be sufficient to raise the Mixture of half a Pound of each. This you may repeat as often as you think convenient, every Sublimation separating the light, fuzy Flowers, and taking only the Crystaline part. This Sublimation cleanses it, but in my Opinion makes it the more Corrosive, by carrying up some of the sharp Spirit of Salt with it.

To Sublime Arsnick for Physical Use.

TAke of the aforesaid Sublimate one Pound, put it in a Crucible; set it in a melting Furnace, in such a Fire as will just keep it melting, where continue

tinue it for two Hours, in which time a great deal of the moſt Corroſive Poiſonous Part will be Exhal'd.

Let it cool, and that which remains in the Crucible make into Powder, and grind it with equal its weight of fine Filings of Iron; ſet them in a Sand Furnace to Sublime, as you did before, obſerving the ſame Degree of Fire, and ſpace of time, proportionable to the quantity; Repeat this Operation twice more, every time ſeparating the light Flower, and then you have a Sublimed Arſnick, pretty well freed from its Corroſive Poiſon, and fit for farther Preparation: Some have ventur'd to give the Infuſion of this Arſnick inwardly, and ſay it is a great Antidote againſt Poiſon.

Its *Operation* is Emetick and Cathartick.

Its *Doſe* from three to eight Grains, Infuſed in Wine.

Diaphoretick Arſnick.

TAke of the aforeſaid ſweet Sublimate of Arſnick, four Ounces, bring it into fine Powder; put it into a Retort; put to it twelve Ounces of Spirit of Nitre;

tre; ſet it in a Sand Furnace; make to it a gentle Fire, which increaſe gradually to the third Degree, and ſo keep it till no Drop falls from the Noſe of the Retort; let it cool, and take out, and grind the Arſnick again; put it in a new Retort, and put to it twelve Ounces more of freſh Spirit of Nitre; proceed, as you did before, to the third Degree of Fire; and when you perceive no Drop to fall from the Noſe of the Retort, increaſe the Fire to the Fourth Degree, and ſo keep it for two Hours; then let all cool, take out the Medicine, which make into very ſubtle Powder; Put it in a Matras; put to it Tartaris'd Spirit of Wine half a Pound; Invert a fit Glaſs into the Mouth of the Matras, Lute well, and let it ſtand upon warm Sand twenty four Hours, often ſhaking it about; Take it from the Sand, let it ſettle, and decant the clear Spirit of Wine; Put to the Medicine half a Pound more of freſh Spirit of Wine, let it ſtand as before, twenty four Hours, then let cool, and when ſettled, decant; dry the Powder gently, and keep for Uſe.

Its *Operation* is Diaphoretick.

Its *Doſe* from five to twenty five, or thirty Grains.

I remember it to have been often-times us'd with good ſucceſs in the Plague, in the Year 1665.

Regulus

Regulus of Arſnick.

TAke Arſnick eight Ounces, Salt of Tartar, made of Tartar, and Nitre, *ana* ſix Ounces, Filings of Steel four Ounces, Charcole-duſt one Ounce; beat and mix them, and by a Spoonful at a time, put them into a red hot Crucible: when it is in, make a Fire all over it, and let the Matter ſtand in good Fuſion half an Hour, then take it out, and pour it into a warm greas'd Cone, or Mortar, knocking it about the ſides, to make the Regulus ſettle; you may purifie it as that of Antimony.

There is alſo a Regulus of Arſnick, made of Arſnick one Pound, Potaſhes ſix Ounces, and ſoft Soap one Pound; mix, and put in a Crucible, covered with another that has a Hole in it; and ſo bring it to Fuſion gradually in a Melting Furnace.

Spirit and Butter of Arſnick.

TAke Arſnick half a Pound, Mercury Sublimate one Pound; mix them well, and put them into a Retort; place it

it in a Sand Furnace; Lute on its Receiver, and give it gradual Fire, as in the Butter of Antimony, and you will have a thin Fuming Spirit, and a Butter: When all is cold, take off the Receiver; pour the Spirit into a Glaſs, which keep well ſtop'd, and the Butter you muſt keep by it ſelf.

The Spirit ſome ſay will Radically diſſolve Iron: the Butter is a great Cauſtick.

If you put on a new Receiver, after you have taken off the Spirit and Butter of Arſnick, urge the Fire ſtrongly, and the Crude Mercury will diſtil in Drops, which ſerves for any uſe that other Quickſilver can be put to; there is no need of putting Water into the Recipient, the Mercury will Condenſe without it. And if you deſire more Diſſolving Spirit, put the Butter and Spirit into a new Retort, and Diſtil again; and by Repeating that Operation, you will make (almoſt) all the Butter into Spirit.

Arſeni-

Arsenical Magnet.

TAke of Crystaline Arsnick, Yellow Sulphur, and Crude Antimony, of each three Ounces; These all made into Subtle Powder, and mixt, put them into a Retort; Fit a Receiver without Luting, and give it gradual Fire to the Third Degree, where keep it three Hours; augment the Fire to the Fourth, for an Hour more; then let all cool, and in the bottom of the Retort you will find a Pellucid Mass, of a dark red Colour.

In the time of the *Plague*, 1665. I made this Magnet, and it was much us'd both in Plaisters and Amulets.

Observations

Observations.

Sublimate of Corosive Arsnick.

LET all your Operations be Perform'd in a Chimney, that the Pernicious Fumes may freely ascend without Prejudice to the Operator; and when you grind the Arsnick, Muffle your Mouth and Nostrils.

Sublimate of Sweet Arsnick.

The Filings of Steel being an Alkali, absorbs the Corrosive Salt of Arsnick, and keeps it from Ascending with its more Sulphureous Part.

Diaphoret. Arsnick.

Put not above four Ounces of Spirit of Nitre at a time upon the Arsnick, and dispose the Mouth of the Retort so, that the Fumes may best go up the Chimney; when the Fumes are well wasted, put on four Ounces more of Spirit of Nitre; and so the third time.

Regulus of Sulphur.

When it is melted, and fit to take out of the Fire, let the Cone, or Mortar, be placed in the Chimney, so that you may keep from the Fumes it emits.

Spirit and Butter of Arsnick.

When the Butter is all rais'd, you may melt it down out of the Neck of the Retort into the Receiver, by holding a kindled Charcole under it, as you do in the

the Butter of Antimony; then take off the Receiver, put on another, and Diſtil the running Mercury.

Some order it to be done in an Earthen Veſſel, and kept ſtirring till it is well mix'd, and whileſt ſoft, to form it into *Amulets*; but to do it in a Retort is more ſafe from the obnoxionſneſs of the Fumes, and renders the *Magnet* as uſeful. *Magnet of Arſnick.*

CHAP

CHAP. XIV.

Of Salt Peter.

IT is a Salt, though Extracted out of the Earth, yet abundantly Impregnated with the Spirit of the Air. It also cleaves to Stone-Walls, Rocks, Clefts, and Caverns under Ground. That which is Extracted out of Fat Earth is made in most Countries of *Europe*; but our greatest Quantities come from the *East-India's*.

It is Compos'd of near an equal quantity of Fix'd and Volatile Nitrous Aireal Salts, bitterish in Taste: It is the Product of the Elements, deposited in the Bosome of the Earth, for the Generation and Nourishment of Vegetables, and may not improperly be call'd, The Universal and Un-specifick Mercury; which I shall leave to Quick and Fit Souls to Reflect and Philosophize further upon.

Purification of Salt Peter.

TAke what Quantity you please of Nitre, dissolve it in warm Water; Filter, Evaporate, and Crystallize, as you do

do other Salts. This is an Operation not abſolutely neceſſary amongſt us, our Refiners of Salt Peter giving it well Purify'd to our Hands. Some eſteem the Cryſtalline Nitre beſt, and others the Lump; but I could never obſerve any difference in them, the one being the top; and the Lump, the bottom of the Pan, in which the Nitrous Liquor was put to ſhoot.

Cryſtal Mineral.

MElt what quantity you pleaſe of Salt Peter in an Earthen Pot, or very clean Iron Kettle; When it is well melted, caſt a little Flower of Sulphur upon it; when that is burnt, put on more, and ſo do till the Nitre flows clear as Rock-water, without any ſcum; then with a clean Iron or Braſs Ladle, take it out of the Pot, and put it into a warm Braſs Pan, or Mould; when that is Coagulated, put it by, and with the Ladle take out more; and ſo do till all the Melted Salt is caſt, which keep for Uſe. It is alſo call'd *Sal Prunellæ.*

If you deſire it yet more Pure, diſſolve it in clean warm Water; Filter the Diſ-

solution, and Evaporate till a thin Skin appear upon its Surface; then set it to Crystallize; and this is call'd *Crystal Mineral*, or *Sal Prunellæ Crystallisatum.*

Its *Operation* is Diuretick and Cooling. Its given in *Fevers*, *Quinseys*, *Gonorrhea's*, and in *Pestilential Diseases.*

Its *Dose* from ten Grains to one Scruple, or half a Dram.

Sal Polychrestum.

MIX equal Parts of Sulphur and Nitre in fine Powder, and put them into a red hot Crucible, by a Spoonful at a time; as soon as the Flame of one Spoonful is consum'd, put in another, and so continue it till all your Mixture is in; put a Tile over the top, cover it all over with Coles, and keep it in Fusion four or five Hours, and then pour it into a warm Copper Vessel, and when cold, Powder and Dissolve it in warm Water; Filter the Dissolution, and Evaporate till it is dry.

If the Salt be not so white as you desire it, put it in a Crucible, and set it in a strong Fire three or four Hours longer, con-

continually stirring it till it is very white. Then again Dissolve, Filter, and Coagulate, and you will have a pure *Sal Polychrestum.*

Its *Operation* is Cathartick and Diuretick.

Its *Dose* is from half a Drachm to one Ounce.

If to six Ounces of *Sal Polychrestum*, you put one Ounce of Sublimed *Sal Armoniack*, and half an Ounce of *Sal Mirabile Glauberi*, and then Dissolve, Filter, and Crystallize them together; the Composition will be much more agreeable, and better deserve the Name of *Polychrestum* than before.

The Purging Salt of Nitre.

PUT one Pound of Nitre in a Crucible, set it in a wind Furnace; give it gradual Fire till it melts; then put into it a live Charcole, about a quarter of an Inch Diameter, when it has done Flaming, put in another, and so continue to do till the Cole emits no Flame: This is call'd *Fix'd Nitre*; Pour this into a warm Mortar, beat it to Powder, and

dissolve it in Distill'd Vinegar; Filter and Evaporate in a wide-mouth'd Glass; dissolve it again in fresh Distill'd Vinegar, Filter and Coagulate the third time; then dissolve it in high Rectify'd Spirit of Wine, which Distil from it; and you will have a Salt easie of Fusion, pleasant in Taste and Operation.

It is Cathartick and Diuretick, and opens Obstructions in all the chief Bowels.

Its *Dose* is from two Scruples, to four or five Drachms.

The Fix'd Nitre being Expos'd to the Air, dissolves into an Oil of Nitre, *per deliquium.*

Spirit of Nitre.

TAke one Pound of Nitre in fine Powder, and four Pound of clean Tobacco-Pipes, or Fullers Earth, also beaten to fine Powder; mix them well, and put them into a good Earthen, or coated Glass Retort; place it in an open Furnace; Lute a Receiver, and kindle a Fire under it, which keep in the first Degree, till you see some reddish Fumes appear

appear in the Recipient; neither augment it till thoſe Fumes diſappear; then increaſe to the Second, which will raiſe more red Fumes; when they begin to decreaſe, raiſe it to the Third, and ſo on to the Fourth, and moſt Extream Degree of Fire, till no more Clouds come over; then let out the Fire, and as ſoon as it is cool enough, take off the Receiver, and put the Spirit in a Glaſs, with a Glaſs or Wax Stopple.

Its chief Uſe is to diſſolve Metals, which it performs as well (and ſome think better) than *Aqua Fortis*.

Spirit of Salt Peter, with Oil of Vitriol, and the Sal Enixum *of* Paracelſus.

PUT one Pound of Salt Peter into a Glaſs Retort, and pour upon it one Pound of Oil of Vitriol; place the Mixture in a Sand Furnace; Lute on a Receiver, and give a Fire of the firſt Degree two Hours, advance to the Second, where keep it two Hours longer; and ſo to the Third and Fourth, giving two Hours to each Degree, in which time the Operation will be ended. When

all is cold, take off the Receiver, and put the Spirit in a Vial ſtopt with Wax, or a glaſs Stopple. This Spirit Anſwers all the ends of the former.

In the Retort you will find a white Maſs of a pleaſant Acid Taſte.

Its *Operation* is Diuretick, and a powerful Opener of Obſtructions.

Its *Doſe* is from one Scruple to one Drachm, in Water-gruel, Broth, Water, or any other Vehicle.

The Sweet Spirit of Nitre.

PUT into a Retort of Spirit of Wine Tartaris'd, half a Pound, to which muſt be added four Ounces of Spirit of Nitre, by half an Ounce at a time; a crackling will enſue upon the Mixture, and when that is over, you may put in more, and ſo proceed till all is in; then ſhake them well together, and place the Retort in a Sand Furnace; Fit a Receiver, not Luted, or but ſlightly; make a Fire of the Firſt Degree, proceed from thence to the Second; where keep it one Hour and a half; and then one Hour more of the Third will finiſh the Operation.

It is Diaphoretick and Diuretick; alſo a great Expeller of Wind, and Opener of Obſtructions.

Its *Doſe* is from ten Drops, to one hundred.

Single Aqua Fortis.

TAke of Crude Vitriol three Pound, of Nitre two Pound; beat, and mix them well; put the Mixture into an Earthen Pot, call'd a long Neck, place it in an open Fire; fit to it a Receiver, which Lute well with Clay, Sand, and cut Flax, wrought together; give a Fire of the firſt Degree for three Hours; in that time you will ſee ſome red Fumes in the Receiver, which will again diſappear; then raiſe the Fire to the Second Degree, where keep it three Hours longer; go on to the Third and Fourth, where keep it till the Receiver is free from Fumes. When all is cold, take the Receiver off carefully, and keep the Aqua Fortis for Uſe; which is chiefly for *Dyers* and *Refiners*, and is alſo a good *Menſtruum* to be uſed in the Preparation of other Medicines.

Double Aqua Fortis.

TAke of Vitriol Calcin'd almost to Redness, four Pound, of Nitre two Pound, both made into fine Powder, and well mixt; Put the Mixture into an Earthen Long-neck, or Glass Retort Luted, set it in a Reverberatory Furnace; Fit and Lute on a Receiver to it; kindle the Fire, and proceed, as in the single Aqua Fortis. Some mix Clay with the Calcin'd Vitriol and Nitre, but it is altogether unnecessary: And if you desire its *Caput Mortuum* wash'd, 'tis inconvenient.

Tincture of Salt Peter.

TAke of Nitre fix'd with Charcole, as directed in the Purging Salt of Nitre, one Pound; put it into a Crucible, and give it a strong melting Heat, for three or four Hours; then put it into a warm Mortar, powder it, and whilest warm, pour upon it half a Pound of Tartaris'd Spirit of Wine; set the Mixture in a Matras, upon warm Sand, gradually increasing the Fire, till the Spirit of Wine simper; and so continue it two or three

three Hours, in which time the fix'd Nitre will have communicated its Tincture to the Spirit of Wine; Decant, and put on more, and Digeſt ſo long as it yields any Tincture.

Its *Operation* is Diaphoretick and Diuretick.

It Purifies the Blood, and is a great Antiſcorbutick.

Its *Doſe* is from twenty Drops to a Drachm.

Fulminating Powder.

IT is Compoſed of Nitre three Parts, Salt of Tartar two Parts, and Sulphur one part; mix them diligently, and keep the Powder dry for uſe.

Its *Operation* is Diaphoretick and Diuretick.

Its *Doſe* is from ten Gr. to one Dram.

If you put one Dram of this Powder into a Spoon, Fire-ſhovel, or on the Point of a Knife, and hold it over a gentle Fire, half a quarter of an Hour, it will then begin to melt, and give a Report like a Muſquet.

Obſervations

Observations.

Sal Prunel. or Crystal Mineral. THis differs not much from pure Nitre; the burning of Sulphur upon it, consumes some accidental Dirt, which may have fall'n into it; and Evaporates a little of its Humidity and Spirit; but whether this makes the Medicine more or less effectual, the Physician is the best Judge.

Sal Polychrestum. This ought to be made of pure Nitre, because what is impure, or of the nature of common Salt, fixes with the Medicine in its Preparation: which some (with good Reason) think not to answer the Intent of the Medicine.

Nitrum Cathartic. You ought to dissolve the Fix'd Nitre so often in Vinegar, till it comes off as sharp in its Distillation from the Nitre, as it was when put to it.

Spir. Nitri The Nitre for this Operation ought to be pure and dry; for if it be not Separated from the common Salt, which is in all our unrefined Nitre, it will produce an *Aqua Regia*. If it be not dry, it cannot be made into such fine Powder as is requisite to keep it from melting together,

ther, by which the Emiſſion of its Spirits would be hindered.

This Spirit is made with leſs trouble than the former, and to anſwer the Charge of the Oil of Vitriol, you have the Salt which ſome have obſerv'd to be endued with all the Vertues of *Tartarus Vitriolatus*. *Spir. Nitri. Ol. Vitrio.*

For this Operation you need not take the trouble of making the Nitre ſo fine, as in the Spirit of Nitre, the Crude Vitriol and Nitre melting together in the Retort, ſufficiently mixes them. *Aq. Fortis ſimplex.*

The Nitre ought to be finely Powdered, the better to mix the Calcin'd Vitriol and Nitre, before they are put into the Retort, for the Reaſon recited in the Spirit of Nitre. *Aq. Fortis duplex.*

You may put the Firſt and Second Tinctures together in a Retort, and draw off ſo much Spirit of Wine as is neceſſary to leave the remaining Spirit of Wine well charged with the Tincture. *Tinct. Sal. Nitri.*

Obſerve but the Proceſs, and no other Caution is requir'd. *Spir. Nitri Dulcis.*

This

Pul. Fulminans. Let the Nitre, Salt of Tartar, and Sulphur, be all very dry, and grind them in a warm Mortar, with a warm Pestle. For if you let them Attract Air, it lessens the Crack.

Note, That in the Rectification of these, and all other Acid Spirits, the Flegm comes first; whereas in all Vinous and Urinous Spirits it comes last.

CHAP.

CHAP. XV.

Of Common Salt.

COmmon Salt is the Quinteſſential Part of Salt-Water, (*viz.*) of the Sea, or of Fountains, which remains after a full Evaporation of the inſipid Humidity of the ſaid *Marine*, or Fountain-Water. Of it there are three ſorts (*viz.*) *Sal Gem*, ſo call'd from its Tranſparency, and ſimilitude of Precious Stones; that made by Evaporation of the Water of Salt Fountains, and of Sea-water. The *Sal Gem* we have from the *North-Eaſt-Countries*, as *Poland*, *&c.* where there are large Rocks of it; the Fountain-Salt out of *Cheſhire* and *Worceſterſhire*, and that of the Sea from all Parts of the World near the Sea, and of it there are two ſorts, that made by Evaporation with Fuel, and that dryed by the Sun, the laſt of which is the ſtrongeſt. The *Sal Gem* is the moſt Penetrating, as appears by its Diſſolving, and Volatilizing Gold, more powerfully than the other.

Purification

Purification of Salt.

IT is separated from its Earth, and accidental Dirt, by Dissolution, Filtration, and Crystallization.

Decrepitation of Salt.

PUT what quantity of common Salt you please into a Crucible, or any other Earthen Vessel which will endure the Fire; give it such a Heat as will make it crackle, but not melt; continue it in that Degree of Fire (now and then stirring it with an Iron Hook) till it cracks no more; and this you may do either before, or after Purification.

Spirit of Salt.

TAke of common Salt one Pound and a half, of Burnt Tobacco-Pipes, or Fuller's Earth, four Pound and a half; let the Salt and Bole be well dryed, and beaten into very fine Powder; then mix them exactly, and put them into an Earthen or Glass Retort Luted, which ought not

not to be quite two thirds full; place the Veſſel in a Reverberatory Furnace; cover it with its Dome; Fit and Lute on a Receiver; make under it a Fire of the firſt Degree, and continue it about two Hours, in which time the Lute will be dry; then increaſe the Fire to the Second Degree, and continue it ſo three Hours, and ſo proceed to the Third, and there keep four Hours; urge it further to the Fourth, for five Hours longer; in which time (the Fire being exactly manag'd) the Operation will be ended, which you will perceive by the diſappearance of the white Clouds in the Receiver; let it cool, and take off the Spirit.

Put the Spirit into a clean Cucurbit, or Retort; place it in Sand, in a gentle Heat, fit a Receiver, not Luted; give it a gentle Fire, to raiſe the inſipid Flegm; when you perceive the Drops to have an acid Taſt; put away that which is in the Receiver, which put on again, and Lute; keep it in a Fire of the Second Degree, till there is a Minutes ſpace of time between the falling of each Drop. Then take off the Spirit, and keep for uſe. It is more grateful in Taſte than it was before its Rectification.

In the Retort will be left the heavy Spirit of Salt, which is improperly call'd its

its Oil; which may also be Rectify'd, and rendred more grateful, by increasing the Fire to the Third and Fourth Degree, till nothing is left in the Retort, but a Stiptick Yellow Earth.

Its *Operation* is Diuretick, and is us'd in any Vehicle, to make it of a pleasant Acidity. It is given in Fevers, Obstructions of the Liver and Spleen, Dropsies, Jaundice, and to quench Thirst.

Its *Dose* is from ten, to sixty or seventy Drops.

Spirit of Salt, made with Oil of Vitriol, &c.

TAke of clean common Salt, two Pound, of Oil of Vitriol the same quantity, and mix them thus. First put the Water into an Earthen Vessel; then put the Oil to it by two or three Ounces at a time; if you put in more it will endanger breaking the Vessel by its violent Heat.

Then put the Salt into a Glass Retort, and put the Oil and Water to it; set it in a Sand Furnace; Fit a Receiver to it, and make a Fire of the First Degree for one Hour, and advance to the Second; where keep it three Hours; increase to the

the Third four Hours, and so to the Fourth, till no more Fumes or Drops come into the Receiver. This Spirit (without any Rectification) is more grateful than the former, and equal, if not exceeding it in Vertue.

Sal Mirabile.

TAke the Salt left in the Retort, after the Distillation of the aforesaid Spirit of Salt; Dissolve and Filter it; Evaporate part of the Water, and set the other in a cold place to Crystallize. In cold Weather it will Shoot in Forty Eight Hours, and in warm Weather three or four Days.

Its *Operation* is Cathartick and Diuretick, and Answers all the Uses of any of the Purging Waters.

Its *Dose* from half an Ounce to an Ounce, in a Pint of Purging or Spring-Water.

Spirit of Sal Gem.

SPirit of Sal Gem is made in every respect as that of common Salt, either with Bole, or Oil of Vitriol.

Its Use and Vertues are the same as Common Salt, but 'tis a more powerful Dissolver of Gold.

Observations.

Spirit Salt com. YOU may put one part of Crude Tobacco-Pipe-Clay, to two Parts of Bole, and work it well with the Bole or Clay moist; make it into little Pellets, which dry, and then Distil, as you are directed.

Spirit. Sal. cum Ol. Vit. About the middle of this Distillation the Matter in the Retort will bubble and make a noise, then be careful that you do not augment the Fire too fast, least the Retort or Receiver breaks.

Sal Mirab. If the Retort perform the Operation without cracking, you may put Water to the Salt which is in it, and Dissolve and Filter, and so save the Retort. The Evaporation may be made in a clean Iron Kettle, or an Earthen one. CHAP.

CHAP. XVI.

Of AMBER.

IT is ſuppos'd to be a Bituminous Juice and Roſin of the Earth, ſoft and viſcous; for in it we often find Flies, Ants, *&c.* It is call'd *Amber*, *Succinum*, *Carabe*, and *Gleſſum*. It is found in the *Perſian Gulph*, on the *Italian Shore*; alſo in the *Currents* near the *Baltick Sea*, in the Dutchy of *Pruſſia*. It is of different Colours, *viz.* White, Yellow and Black: But thoſe who work it into Beads, and other things, make a Diſtinction of twenty or thirty ſorts.

The White is moſt eſteem'd in *Phyſical Uſe*, as being beſt Digeſted, and of the moſt Odoriferous Smell, containing the greateſt quantity of Volatile Salt. The Yellow is next in goodneſs, and moſt valued by the Amber-workers, by reaſon of its Tranſparency. The Black is leaſt in eſteem. *Amber*, by agitation, ſends forth an agreeable Smell, and being ground into fine Powder, is given in *Gonorhea's*, Spitting of Blood, the Bloody Flux, and the Immoderate Flux of the Hemorrhoids, Terms, *&c.* alſo to ſtop the Violence of Catarrhs, if the Fume of it be received up the Noſe.

It is found in pieces of different ſizes, from the bigneſs of a great Pin's Head, to thoſe of five, ſix, or ſeven Inches Diameter; the greater Pieces are wrought into Cabinets, Cups, and ſeveral Figures, and are valued according to their Bigneſs and Tranſparency.

That we meet withal in the Shops, is by the Druggiſts generally diſpoſed into two ſorts, by ſeparating the White and Yellow Pieces, from thoſe that are full of Scurf and Black, which they diſtinguiſh by the Names of Fine and Courſe Amber: The Fine Levigated is for Phyſical Uſe, and the Courſe for Diſtillation.

Preparations of Amber.

Oil, Volatile Salt, and Spirit of Amber.

TAke of courſe Amber in fine Powder one Pound, of Tobacco-Pipes, Bricks, Sand, or other Bole, alſo in fine Powder, three Pound; mix them well, and with the Mixture fill a Retort half full; ſet it in a Sand Furnace; fit to it a Receiver (not Luted) make Fire of the firſt Degree for one Hour, increaſe it to the Second, and ſo keep it two Hours; then to the Third, in which keep it four Hours.

In

In the firſt Degree ſome of the Acid Water we call Spirit, with a little of the fineſt Oil will Diſtil. In the Second, the Spirit and Oil will continue dropping, and ſome of its Volatile Salt will riſe into the Neck of the Retort. In the Third, you will elevate more Salt with the Balſamick Oil; and if you will urge the Fire to the Fourth Degree, it will raiſe its thick Balſam. As the Salt riſes into the Neck of the Retort, you ought to ſcrape it out with a clean flat Stick, and put it upon brown Paper to ſuck up the Oil: The Salt, by this means, will be white, and if you deſire it more fine, you may Diſſolve, Filter, and Evaporate it, and you will have a very white Salt. When the Diſtillation is over, and all cool, Separate the Oil and Spirit, by a Funnel, or other Separating Glaſs. If you would Rectifie the Oil, you may put it into a long bodied Retort, and ſet it in Sand, and by gradual raiſing the Fire to the Second Degree, there will Diſtil a fine yellow, and clear Oil. But if you would have a pure white, and Ætherial Oil, you muſt put it into a Cucurbit, with three times the quantity of Water to that of Oil, with which the Veſſel muſt not be quite half full, and then fit on the Head and Receiver, and gradually bring up the Fire to the Second Degree, or ſo as to make the Oil and Water bubble, and you will

Diſtil a pure Ætherial Oil, which muſt be ſeparated as before. Separate the Water from the Oil left in the Retort, and you will find it Impregnated with ſome of the Salt, and therefore put it into the Receiver, into which you made the Firſt Diſtillation, and ſhake it well, to rinſe out the Salt. Then pour all into a Cucurbit; fit to it a Head and Receiver; give a gentle Fire to Evaporate the Water, till the Drops fall a little Acid; then let it cool, and put it to the Spirit which you ſeparated in the firſt Diſtillation; Rectifie them together, and you have the Spirit of Amber.

The *Operation* of the Oils, Spirit and Salt, is Diaphoretick and Diuretick.

The *Doſe* of the Rectify'd Oils is from one to twelve, or fifteen Drops; of the Unrectify'd Oil from one to ſix or ſeven Drops. The *Doſe* of the Spirit is from ten Drops to one Drachm; and that of the Salt from two Grains to one Scruple.

The Rectify'd Oil is given in Hyſterical Diſtempers, in the Palſie, Apoplexy, and Epilepſie: The Salt and Spirit is given in the Stone and Gravel in the Kidnies and Bladder, Stoppage of Urine, Ulcers in the Neck of the Bladder, *&c.* The Balſamick Oil is moſt us'd externally, but often given, with good ſucceſs, in old Gleets, a Diſeaſe which frequently puzzles the beſt Phyſicians.

Tincture

Tincture of Amber.

PUT Four Ounces of Amber in very fine Powder, into a Boult-head, powr upon it Twelve Ounces of Spirit of Wine, invert a small Boult-head into the Mouth of the bigger, lute well the Juncture, and set it to digest upon a heat of Sand four or five days, shaking it about two or three times in a day; when the Spirit is well tinged of an Amber Colour, powr it into a Vial, and put half a pound more of Spirit of Wine, digest as before, which also will extract a Tincture, both which put into a Matras, and in a gentle heat of Ashes, draw off one half of the Spirit of Wine, which will serve again for the same Use; and put the Tincture into a Vial well stopt.

Its *Operation* is a little Diaphoretick; it is given to Hysterical Women, and is good for the Apoplexy, Palsie and Epilepsie.

Its *Dose* from Ten to Seventy or Eighty *Drops* in any proper Vehicle.

The Powers of Amber.

TAke Oil of Amber one Ounce, the volatile Salt of Sal Armoniac half an Ounce, grind the Oil and Salt well together in a little Mortar, powr to them Spirit of Wine Tartariz'd half a pound, and put them afterwards into a bolt-head, invert a little Glaſs to make it fit for Circulation. Lute well the Joint, and put it on warm Sand to ſtand in Digeſtion four or five days, ſhaking it two or three times every Day, in which time the Spirit of Wine will have imbib'd the Oil and Salt; ſet it by, and when 'tis cold, put it in a Vial, well ſtopt, and keep for Uſe.

Its *Operation* is Diaphoretick and Diuretick. It is of the ſame Uſe with Oil, Spirit, and Salt of Amber, and is an Excellent Medicine againſt the Cholick in Stomach or Bowels.

Its *Doſe* from ten Drops to half a Dra. or two Scruples.

Obſervations

Observations.

THE Oil, Spirit, Salt and Tincture, require no other Remarks than what is given in the Processes: And if you put the Salt of *Sal Volatile Oleosum*, instead of the *Sal Volatile Armoniacum*, it will be more acceptable to some Persons.

CHAP.

CHAP. XVII.

Of CORAL.

IT is a Petrify'd Plant, which shoots out from Rocks in the bottom of the Sea: There are three sorts of it, *viz. Red*, *White*, and *Black*. The *Red* is most in Esteem and Use; the *White* next; but of the *Black* I have never met with any Preparation: The *Red* is found in the Seas of the *East-India's*, and the *Mediterranean*: Some say 'tis Green and Soft under Water, and by the Air is presently turn'd Red and hard; the *Black* is often upon the same Branch with the *Red*: The *White* is found in the *West-Indian-Sea*, upon the Coast of *Spain*, and in the West of *England*, upon the Coast of *Cornwal*. The Chymical Preparations of the *Red* are the Tincture, Magistery, and Salt; and of the *White*, the Magistery and Salt. But some prefer the Use of Coral brought into an Impalpable Powder, by grinding only, before any other Preparation whatsoever.

Preparations of Coral.

Salt and Magiſtery of Coral.

TAke what quantity you pleaſe of *red* or *white Coral* in fine Powder, put it in a clean, ſmooth Earthen Diſh, or wide-mouth'd Glaſs; Mix with it diſtill'd Vinegar, and there will ariſe preſently a ſtrong Ebullition: when it is over, put more Diſtill'd Vinegar to it; and ſo continue to do as long as you perceive any Fermentation; then ſet it upon warm Sand, ſtirring it now and then with a clean Tobacco-Pipe, till you ſee the heat excites no Effervеſcenſe; then filter the Liquor, put by the moiety of it for the Magiſtery, and the other part evaporate to dryneſs in a gentle heat, which is the Salt of *Coral.*

Its *Operation* is *Diaphoretick* and *Diuretick*; and is ſaid to revive and fortifie the heart; ſtop Bloudy-Fluxes, and all other Hæmorrhagies, and to reſiſt Poyſon.

Its *Doſe* from ten Grains to one Dram.

Upon the other part of the Liquor, drop Oil of Tartar *per deliquium*, upon which will ariſe a White Curd, and will in

in a little time precipitate to the bottom; when the Liquor is clear drop in more; and if it turns the Liquor white as before, let it ſettle, and ſo continue till the Liquor will not curdle by the Oil of Tartar; when the *Magiſtery* is all ſettled, decant the Liquor, and put clean Water to the *Magiſtery*; ſhake it about, let it ſettle and decant as before, and ſo do five or ſix times, till the *Magiſtery* has loſt all its Salt Taſte; dry it gently, and keep it for uſe.

It is endued with the ſame Vertues with the Salt.

Its *Doſe* may be augmented to Four Scruples.

The Tincture of Coral.

IT is made ſeveral ways, and with divers *Menſtruums*, which by time and heat, becoming red, it is thought (with good reaſon) that the Tincture proceeds more from the Spirits than from the Coral; I will therefore give you one, which I think to be the moſt genuine Tincture of Coral.

Reduce half a Pound of Red Coral into impalpable Powder, and mix it with equal its weight of ſublimed Sal Armoniack alſo in *Powder*; put the Mixture into

to a Retort; which place in Sand; fit to it a Receiver, and having well Luted the Junctures, make Fire of the firſt degree, one hour; proceed to the ſecond, which continue two hours; go on to the third, and keep it there three Hours, or 'till all the Sal Armoniack is Sublimed. It will be Tinged with variety of Colours, as Red, Green, Blue, *&c.* and contain in it the true Tincture of Coral, which is apparent by its Body, being left White in the bottom of the Retort. Put all theſe Sublimed Flowers into a Matras, and to every four Ounces of the Flowers put ten Ounces of Tartaris'd Spirit of Wine; ſet them upon warm Sand, in a double Veſſel to digeſt, for three or four Days, and ſhake them every Day two or three times; when the Spirit of Wine is well tinged, put on more, and let it ſtand as before: Then put the tinged Spirits together (being twenty Ounces) in a Matras; draw off twelve or fourteen Ounces, and the ſix or eight remaining will be deeply Tinged with the Sulphur of Coral.

Its *Operation* is Diaphoretick and Diuretick.

Its *Doſe* from ten Drops to one Dram.

Obſervations

Observations.

Sal Coral. MAke the Evaporation in a Glass Vessel, with a wide Mouth, and in a gentle Heat of Sand; the Earth will suck up a great deal of Salt, and too strong a Heat will discolour it.

Magist. Corallij. When it is well settled, and washt sweet, you may drop it upon a clean Chalk stone, to absorb the Humidity, and then dry it further between Paper in the shade.

Tinct. Coral The Sal Armon. ought to be prepared by Dissolution and Sublimation; so that no heterogeneous Matter may be elevated with the genuine Sulphur of Coral.

CHAP.

CHAP. XVIII.

Of Japan Earth.

IT is brought from *Japan*, and by the Natives call'd *Catechu*, in Colour and Weight it differs; ſome make nine or ten diſtinct ſorts of it; But be it of what Colour it will, that which is lighteſt, breaks ſmooth, and is moſt ſtiptick on the Tongue is beſt; in Taſte it is ſomething bitter, but not unpleaſant, prepares the Pallate to receive Wine with much pleaſure: There is ſeveral Compoſitions of it made into Troches, that moſt in eſteem is called *Catechu*; it is good againſt Catarrhs, Fluxes of Rheum, the Flux of the Bowels, and over-flowing of Terms, *&c.*

Catechu.

MAke what quantity you pleaſe of *Japan Earth* into Powder; diſſolve it in weak Cinamon Water; powr off the diſſolution from the Fœces, and dry it gently; when 'tis dry, mix two Ounces of it with three Ounces of Sugar Candy, Am-

Ambergreece half an Ounce, Musk fifteen Grains; and Butter, or (as they call it) Spirit of Roses fifteen Drops; grind them all extreamly well together till they are impalpable, and with the Mucilage of Gum Tragacanth, make them into little Pills of the bigness of Pearl Barley.

One of these Pills held in the Mouth, causes a sweet Breath, and renders all Liquors very pallatable; forty or fifty of them dissolv'd in the Mouth, and swallowed in a day, helps Catarrhs, Fluxes of Rheum, the Bloudy-flux, and overflowing of the Tearms.

The Tincture of Japan Earth.

POwder finely four ounces of *Japan* Earth. Of the best Cinamon one ounce, of the *Peruvian* Bark one ounce and an half, let them be made also into fine Powder, with Musk and Ambergreece, *ana* six Grains; let the two last be well ground with one ounce of *Sugar Candy*; Put them all in a Matrass, and put to them *Spirit of Wine* twenty four ounces; make of the Matrass a circulating Vessel; lute well the Juncture; set it upon warm Sand to digest four or five days, shaking it about two or three times a day; then set it by to

to settle, and by gentle inclination powr it into a Vial, and keep for Use.

It is good for all the fore-mention'd Purposes, and also an excellent Antifebrifick.

Its *Dose* from half a Spoonful to three or four, in Wine, or any other proper Vehicle.

These need no other Observation than adhering to the Processes.

A Compleat Courſe OF Chymiſtry.

PART II.

CHAP. I.

Of VEGETABLES.

ALL Plants proceed from Seed, in which they are for ſome time ſhut up, as in a Matrix, 'till the Saline Humidity of the Earth and Fire has Penetrated and Softened the outer Part of the Seed, enter'd its Pores, and given Extention to the young Plant, by which its parts become perceptible.

Plants are Nouriſhed by their Roots, which receive their Nutriment by Pores, and are afterward Exalted by the Heat of the Sun, which diſtributes it ſelf into the Fibres of the Plant, and cauſes ſuch a Filtration and Circulation of the Juices, as gives Nouriſhment to the Vegetable Parts; the moſt Exalted and Subtle Parts whereof aſcend to the Flowers and Fruit, the more Aqueous and leſs rarify'd, give Nouriſhment to the Leaves and Branches. From the more Oily Part proceeds Gums, and Reſins; and of the more Groſs and Tereſtrial is Compos'd the Bark.

CHAP

CHAP. II.

Of JALAP.

IT is a Root brought to us from *America*, ſliced and dried; that which is moſt Ponderous, and breaks with ſhining black Reſinous Veins is beſt. It is a great Cathartick, and as they ſay, Purges watry Humours: The Powder of it is given in White-Wine, from ten Grains to one Dram.

Reſin of Jalap.

TAke of Select Jalap one Pound, Powder it, and put it into a Matras; put to it ſix Pound of Rectify'd Spirit of Wine; invert a Bolt-Head, and Lute it; ſet it upon warm Sand three or four Days, and ſhake it every Day two or three times; when the Spirit is well Tinged, decant it carefully through a Hair Sieve into a Cucurbit; ſet it in a gentle Heat of Sand, or Balneo, and draw off the Spirit of Wine to one Pint, which you may return upon the Jalap, to make a ſecond Extraction; Decant

the Spirit as formerly; Lute on its Head and Receiver, and Distil as before. Let all cool, and in the Cucurbit you will find the Resin in Form of Turpentine, which wash in three or four Waters, and in a gentle Heat dry it, till it will beat into Powder.

Its *Operation* is Cathartick.

It is given to open Obstructions, and in Dropsies, made into Pills, or an Electuary.

Its *Dose* from three, to ten or twelve Grains.

CHAP. III.

Of RHUBARB.

IT is a Purgative Root brought to us from *Turkey* and the *East-India's*; it is the Product of some Parts of *China* and *Tartary*. The most Compact (not Flinty) which cuts in Grains like Nutmegs, and of a pleasant Flavour, is best. And observe, that generally the small Pieces exceed the great ones in Goodness, as being less subject to Corruption; after its

its Purgative Operation is over, it Binds, and is therefore given in Fluxes.

Its *Doſe* is from ten Grains to ſixty or ſeventy.

Extract of Rhubarb.

BRuiſe, or cut into very thin Slices, what quantity of Rhubarb you pleaſe; ſteep it ten or twelve Hours in a ſufficient quantity of Diſtilled Rain Water, or any proper ſimple Diſtill'd Water; let it juſt ſimper, and then paſs it through a Strainer; infuſe the Remainder in more Water, as before; paſs and preſs it hard through the Strainer; put the Infuſions together, and let them ſettle; then, by gentle Inclination, pour off the clear Tincture from its Reſidence, and Evaporate to the Conſiſtence of Honey, and it is the *Extract of Rhubarb.*

Obſervations.

THeſe Extracts made with Water are apt to grow mouldy; therefore if you intend to keep them long, they ought to be made with Spirit of Wine.

After the ſame manner are all Vegetable Extracts made, except Reſins, which require Spirit of Wine to diſſolve them: Alſo obſerve, when you make the Extract of any Aromatick Herb, Flower, or Spice, that inſtead of Evaporation, you Diſtil the Water, and ſave it for Uſe, *&c.*

CHAP. IV.

Of GUIACUM.

GUiacum is the Wood we call *Lignum Sanctum*, and *Lignum Vitæ*: It grows in ſeveral places of the *Weſt India's*, and is a Tree of great Magnitude. It is Sudorifick, and therefore us'd in ſuch Decoctions. That which is moſt Compact, Reſinous, and Ponderous, is beſt. Its *Gum* is both Sudorifick and Cathartick.

Spirit

Spirit and Oil of Guiacum.

FILL an Earthen Retort two thirds full of ſuch Duſt of Guiacum as you have at the Turners; Place it in a Reverberatory, and Lute to it a Receiver; give it Fire of the firſt Degree one Hour, increaſe it to the Second, and keep it there two or three Hours; go on to the Third two Hours; and ſo to the Fourth for two Hours more; or until you ſee no more Fumes will come into the Receiver: Let it cool, and take off what is Diſtill'd, and put it into a Coffin of Filtring Paper, in a Funnel; the Spirit will Filter through the Paper, and the Oil will remain in it: Put the Spirit into a Glaſs Retort; ſet it in a Sand Furnace; Fit on its Receiver, and give it Fire of the Firſt Degree, to raiſe the Flegm; when you perceive the Drops to come Acid, remove the Receiver, and put away the Flegm as uſeleſs: Put on the Receiver again, and Lute it, increaſing the Fire gradually to the Second and Third Degree, and it will bring over all the Spirit, which put in a Vial for Uſe.

The Oil may be Rectify'd in a Retort, but 'tis generally us'd for the Tooth-ach, and

and to clean Rotten Bones, without Rectification.

Its *Operation* is Diaphoretick.
Its *Doſe* is from two, to eight or ten Drops.

The Spirit is Diaphoretick and Diuretick.
Its *Doſe* from twenty Drops to ſixty, or ſeventy.

You may Calcine the *Caput Mortuum* to a white Aſh, and then with warm Water Extract the Salt, as you will ſee hereafter of other Vegetable Fix'd Salts.

CHAP: V.

Of Saſſafras.

IT is a Tree affording good Timber: It grows in ſeveral of our Weſtern Plantations; eſpecially in *Virginia*, from whence we have it. Its Root is more Fragrant than the Tree; and therefore it is moſt us'd in Phyſical caſes. The Bark of both the Tree and Root is more Fragrant than the Wood of either, and yields more Oil conſiderably.

Oil

Oil of Saſſafras.

TAke of the Shavings, or the Wood ground to Powder, twenty eight Pound; Put it into a Copper Still, to which put of clean Water twelve Gallons: Lute on the Head, and ſet a Spout Receiver to the Worm; make a gradual Fire, till it runs in a ſmall thred into the Receiver; in which condition keep it, till by holding a Spoon under the Noſe of the Worm, you perceive no Oil to Diſtil with the Water; when the Operation is ended, ſeparate the Oil which ſinks to the bottom, and put it up.

Its *Operation* is Diaphoretick and Diuretick. It is given in the Venerial Diſeaſe, Gout, Stone, Scurvy and Dropſie.

Its *Doſe* from three, to ten or twelve Drops.

After the ſame manner you make the Oils of Rhodium, Cinnamon, Cloves, Clove-bark, all Aromatick Herbs, and Seeds; and therefore I will not trouble you with any other Proceſs of this kind.

CHAP.

CHAP. VI.

Of the Jeſuits, or Peruvian Bark.

IT was brought to us from *Peru*, in *New Spain*, and its Uſe firſt taught us by the Jeſuits: There has been for ſome Years two ſorts of it *(viz.)* the Cultivated and the Wild: The Cultivated is the beſt, and the beſt of that kind is that which is moſt Compact, Bitter, and of a reddiſh Colour.

It is a certain Remedy to hinder the Fits of an Ague, and is given either in Powder, or infuſed in Wine: the Patient being well Purged before.

The Infuſion of Peruvian Bark.

TAke of the Bark in Powder two Ounces; Put it in a Matras, and to it two Quarts of White, or Pale Red Wine; Fit the Matras for Circulation, and ſet it upon warm Sand, or in Balneo, fourty eight Hours; ſhake it about two or

or three times a Day, then let it cool, and pour off the Infusion (through a Strainer) into a Vial, and keep it stopt for Use.

Two or three Ounces of this Infusion is given three or four times a Day in Agues, at some distance from the *Paroxism.* Dr. *Smith* of *Paris* (who was Sir *Robert Tabor*'s Successor there) made his Infusion in Pale Red Wine.

The Tincture of Peruvian Bark.

TAke four Ounces of the Bark in Powder; put it in a Bolt-Head; put to it Tartaris'd Spirit of Wine twelve Ounces: Invert another less into the Mouth, to make it a double Vessel; set it in a gentle Heat of Sand, Balneo, or Bal. Vap. four or five Days, shaking it every Day two or three times; then Decant the Tinged Spirit of Wine carefully into a Vial, which keep for Use.

Its *Dose* from one Scruple to one Dram, or one Dram and a half, to be given in any convenieut Vehicle, as a Febrifuge, some distance from the Fit.

The Extract of Peruvian Bark.

PUT half a Pound of Peruvian Bark in Powder, into a large Matras; Put to it of the ſimple Diſtill'd Water of Wormwood, Carduus, or any other proper Water, five or ſix Quarts. Place it in Sand, and let it boil gently two or three Hours; ſtrain it; put more Diſtill'd Water to the Bark; Boil and Strain as before; Put the Infuſions together, and in a Glaſs or Earthen Veſſel, Evaporate gently, to the Conſiſtence of Honey. Put this Extract in a Pot for Uſe.

Its *Doſe* is from fifteen Grains to two Scruples, in Pills, or Diſſolved in Wine.

It is Endued with the ſame Vertues as the former.

CHAP.

CHAP. VII.

Of SUGAR.

IT is the Eſſential Salt of a Reed which grows in the *Eaſt* and *Weſt-India's*; That from *Braſile*, brought into *Europe* by the *Portugals*, is accounted the beſt, which is called *Braſile*, or *Liſbon* Sugar; but that which now we have from *Barbadoes* and *Jamaica* is very good, and by the Refiners of Sugar made equal to any other in Goodneſs. It is Refined by Diſſolution, and the Separation of its Earthy, Groſs, Oily and Moloſus Part: That which is made moſt white and acceptable to the Eye, is Refined by the help of Lime-water, and being Evaporated to a due Conſiſtence, is put into Moulds, of a Pyramidical Form, with a hole in the bottom, to let the more Feculent Part run out.

Sugar-Candy is made of both Refined, and Unrefined Sugar, by boiling of them in Water, and ſetting them to Cryſtalize in Veſſels, in which they put little Sticks for the Cryſtals to adhere to. The White

White Candy is of the Refined Sugar, and the Brown of the Unrefined.

Sugar-Candy is counted a good *Pectoral*, and given in Diſeaſes of the Breaſt and Lungs.

Spirit of Sugar.

TO one Pound of Powdered Sugar, put three Pound of Fullers Earth, alſo in Powder, or in its room, ſo much Sand clean waſht; fill a Retort half full of this Mixture; place it in a Sand Furnace, and give it Fire of the firſt degree, for two Hours; then increaſe it to the Second for two Hours more; proceed to the Third, where keep it till no Fumes appear in the Receiver. Then let all cool, and in the Receiver you will find a Fœtid Spirit and Oil, which ſeparate as uſual. Put the Spirit into a Retort, or Cucurbit; ſet to it a Receiver un-luted, make Fire of the firſt Degree; and there keep it till you perceive the Drops have a little Acidity; put away the Flegm; Lute on the Receiver; increaſe the Fire to the Second Degree; where keep it till all is come off.

It dissolves Pearl and Coral, and is also counted a good Medicine in the Stone and Gravel in the Bladder or Kidnies.

Its *Dose* is from ten, to fifty or sixty Drops, in any appropriated Liquor.

The Compound Spirit of Sugar-Candy.

TAke Sugar-Candy (white or brown) half a Pound, of Sal Armoniack four Ounces, both made into fine Powder, and well mixt; put them into a Retort, which must be two Thirds empty; place it in a Sand Furnace, and make Fire of the first Degree for an Hour; increase it to the Second, and there continue it as long as the Drops fall at the distance of one Second of Time; proceed then to the third Degree, and let it remain there till no more Fumes appear in the Receiver: In it you will find an Empyreumatical Spirit, with a little Oil; take out this Spirit and Oil; put them in a clean Retort, and Rectifie in a gentle Fire of Sand, leaving the Oil in the bottom of the Vessel, and you will have a clear Spirit, more agreeable than that of the first Distillation.

It is more Aperitive than the former, and its Uſe and Doſe the ſame.

The Ardent Spirit of Sugar.

TAke coarſe Sugar, or Moloſſes, *q. v.* put to it ten or twelve times its weight of Water, and let them ſtand a ſufficient time to Ferment; as ſoon as the Fermentation is over, put the Liquor into a Copper-Still, with its Refegeratory, and give it gradual Fire till it begins to drop: Obſerve then ſo to manage the Fire, that the Spirit come from the Mouth of the Worm in a ſmall thred; and ſo continue till that which Diſtils is inſipid; then let out the Fire, and Rectifie the Spirit by a Second Diſtillation, either in a Glaſs Body and Head, or (if your quantity be great) in a Copper Veſica; obſerving to ſeparate the Spirit from the Flegm, as in the firſt Diſtillation, which may be farther Rectified till it burns all away.

It is of the ſame Uſe with Spirit of Wine, and is preferrable next to that of the Grape.

Obſervations

Observations.

THE Sand, or other Bole, is mixt with the Sugar, to hinder its boiling over.

The Vessel in which you Distil it ought to be at least half empty.

The insipid Water which comes over in the Rectification ought to be kept by it self, changing the Receiver as soon as you perceive the Drops which fall, to be of an Acid Taste.

If you put a tenth Part of Dulcify'd Spirit of Salt, to the Spirit of Honey, or Sugar, in their Rectification, it will make them of a more grateful smell, and not lessen, but rather increase their Vertues.

Lastly, Urge not the Fire too strongly at the latter end, lest you raise some of the Fœtid Oil.

CHAP. VIII.

Of WINE.

WINE is made of the Expres'd Juice of the Grape, which immediately after the Pressure, is called *Must*, and being Fermented, becomes Wine. The Fermentation causes a Separation of the gros Tartar, and the Viscous Parts of the Must, from the pure Sulphureous and Oily ones, in which is the Spirit and Essential Salt. The petrid Part of the Tartar adheres to the sides of the Vessel, and the Viscous falls to the bottom.

The sharp sprightly Wines, such as *Champaigne*, *Burgundy*, *Nants*, *Burdeaux*, *&c.* being most Impregnated with Essential Salt, yield more Spirit than Sweet *Spanish*, and Muscate Wines, because they are more loaded with a Syrupical Substance.

Spirit

Spirit of Wine, or Brandy,

FILL a Copper-Still (which hath a Refegeratory) two Thirds full of *French* Wine; Lute on its Head, and put a Receiver to the Noſe of the Worm; give it gradual Fire, till the Spirit runs in a ſmall thred; keep it in that Degree till that which comes over being thrown into the Fire, with a Spoon, will not burn; then let all cool, and remove the Receiver, which contains the weak Spirit of Wine, or Brandy, *&c.*

Spirit of Wine.

PUT into a long-bodied Matras, ſo much of the Fore-going Vinous Spirit, as will fill one half of it; place it in a gentle Heat of Sand; and draw off one half, or till you ſee the ſmall Veins Expand themſelves twice the breadth that at firſt they appeared; then remove the Receiver, and you will have a Spirit that will burn away to a Drop or two, in a Spoonful ſet on Fire, by the Flame of a Paper or Candle.

This Spirit ſerves for making ſeveral Extracts and Tinctures.

But if you will have yet a more high and perfect Spirit of Wine, put what quantity you pleaſe of the fore-going Spirit into a Veſſel, and to each Gallon four Pound of Calcin'd Tartar, or the ſame quantity of Pot-aſhes in Powder, and very dry; ſhake them well, and let them ſtand a quarter of an Hour; Repeat the Agitation two or three times, that the Salt may Imbibe the Flegm; when 'tis well ſettled decant the Spirit into a long Body, in the Mouth of which hang a clean Cloth, which contains in it one Pound of Salt of Tartar, proportionably to each Gallon; Place your Matras, or Body, in a gentle Heat of Sand; and the Spirit of Wine which Diſtils into the Receiver will be perfect, the Salt receiving and keeping back the Flegm. This Spirit is fit for any Uſe in Chymiſtry, as a Menſtruum, or for Extracting Tinctures, *&c.*

It is ſometimes taken inwardly, to the quantity of half, or three quarters of a Spoonful, by Apoplectical Perſons, and is externally us'd in Burns, alſo in cold Pains and Contuſions, *&c.*

Spirit of Wine Tartariſ'd.

TAke Salt of Tartar, two or three times Coagulated and Diſſolv'd, one Pound; give it a ſtrong Fuſion in a Crucible, for two Hours, Powder it in a warm Mortar, and whilſt warm, put it into a Matras, to two Quarts of the former Rectify'd Spirit of Wine; ſhake them well together, and place them in a Sand Furnace; Lute the Junctures of the Head and Receiver; Give Fire to ſuch a Degree, as may make the Drops ſucceed each other very quickly: This Spirit of Wine Volatizes, and carries over with it ſome part of the Salt of Tartar, which is demonſtrable by the Salt ſuſtaining the loſs of at leaſt one Ounce of its weight.

By this Operation the Spirit of Wine acquires a more agreeable Scent and Taſte than before, and it is more Subtle, and given in a leſs Doſe, and for the ſame Uſes as the former.

Spirit of Wine Tartariſ'd another way.

TAke the Salt of Tartar left in the bottom of the Matras, in the fore-going Operation, diſſolve it in Pure Rectify'd Diſtill'd Vinegar; Filter the Diſſolution, and Coagulate the Salt, which Diſſolve again in more Diſtill'd Vinegar, Filter and Coagulate as before. Repeat this Operation ſo often, that no black Fœces remains, and that the Diſtill'd Vinegar comes off as ſtrong as it was put upon the Salt; then is this Salt Prepared, which ſome call (but not truly) by the Name of *Volatile Salt of Tartar.*

If you will farther exalt this Salt, take of the fore-going Salt of Tartar, four Ounces, and put to it one Pound of the Spirit of Wine, which will readily Diſſolve it. Let the Diſſolution ſtand quiet three or four Hours, and Decant it gently from the Fœces; draw off the Spirit of Wine in a gentle Heat of Sand in a Retort; diſſolve the Salt again in the ſame Spirit of Wine, and repeat the Operation till no Fœces remains: Return the Salt again into the Spirit of Wine, in which it will totally diſſolve.

This

This is the true Tartaris'd Spirit of Wine, with which I Extract the Tinctures and Anodine Sulphurs of Metals, and unite them with Vegetable Fixt, and Animal Volatile Alkalies, which is one of the chiefeſt Ingredients in the Compoſition of that Excellent *Anti-Rheumatick Tinctnre*, which Fifteen or Sixteen Years ago Cur'd me of a violent *Rheumatiſm*, that Afflicted me Three Years ſucceſſively: And I was not only freed then from thoſe Acute Pains that attended the Diſtemper, but have been preſerved to this Day without the leaſt Symptome of them. Nor is its Vertues confin'd to the Cure of that Diſeaſe only, but even to the Gout, Scurvy, Dropſie, Jaundice, Cholick, Green Sickneſs, Stone and Gravel in Bladder or Kidnies, and in Fevers: In all theſe Diſtempers it has manifeſted its Vertue, and given Relief to ſome Hundreds within this two Years laſt paſt.

This Tartaris'd Spirit of Wine is Cathartick, Diuretick, and Diaphoretick.

Its *Doſe* is from fifty Drops to two Drachms, in Wine and Water, or Water alone.

The Cephalick, or Head Spirit.

TAke of the Eſſential Oils of Cloves, Cinnamon, and Nutmegs, of each half a Drachm; of Marjorum, Lavender, and Roſemary, of each two Scruples; of Oranges and Lemons, *ana* one Scruple and a half; of Fine Benjamin in Powder, one Ounce. Mix theſe all together in a Cucurbit, with three Pints of Tartaris'd Spirit of Wine; place them in a Sand Furnace, Fitting and Luting too, the Head and Receiver; kindle the Fire, which gradually increaſe to the Second Degree, and in that Heat continue it till three Pints is drawn off.

Then take off the Receiver, and put the Spirit into a clean Matras, to which put of *Marum Syriacum*, and Lilies of the Valley, *ana* one Ounce, of *Sal Volatile Oleoſum*, two Ounces, and of Eſſence of Ambergreeſe one Dram and a half; ſhake them well together, and invert a blind Head, to the Matras, and keep it in a gentle Heat of Digeſtion three or four Days, and then put it into a Vial, well ſtopt for uſe.

It

It is a moſt Pleaſant and Excellent Cephalick, three or four Drops of it being ſtrongly ſnuft up the Noſtrils, and the Temples a little rubb'd with it, does immediately remove any Pain of the Head; It may alſo be taken from ten to thirty or fourty Drops, in a little Glaſs of Wine or Water, and is a moſt Effectual Pectoral Medicine.

This is that True *Spiritus Cephalicus* which I have made above thirty Years, and has by ſeveral Perſons of late Years been Counterfeited, and call'd by the Name of *Liquid Snuff*.

Spirit

Spirit of Scurvy-Graſs.

TAKE of Garden-Scurvy-Graſs in Flower, or freſh and newly gathered, at any other time, twenty Pound; bruiſe it groſly, and put it preſently into a Copper-Still, Tinn'd within; Put to it three Gallons of the Grounds of Ale, with a Pint of New Yeſt; ſtir them well together; Lute on the Head, and kindle a little Small-Cole under it, to give juſt a Fermenting Warmth; let it ſtand twenty four Hours, and then give Fire to Diſtil the Spirit. That which comes firſt is the beſt, and ought to be kept by it ſelf: The ſecond Running will ſerve to put to more Graſs, when you Diſtil it another time.

It is alſo made without Fermentation, with Spirit of Wine, thus. To twenty Pound of Scurvy-Graſs, bruiſed as before, put two Gallons of Brandy, or Diſtillers Proof Spirit, make Fire under it, and Diſtil one Gallon, which will be ſtrongly Impregnated with the Vertue of the Herb. The Second Running you may keep for the ſame Uſe as before. Some add to every ten Pound of Graſs, two Pound of Horſe-Radiſh, ſliced or bruiſed, *&c.*

The

The *Purging Spirit* is made by Diſſolving one Ounce of Roſin of Scammony, or Jalap, in one Pound of the Spirit.

The *Doſe* of the *Plain Spirit* is from twenty to an hundred Drops; and of the *Purging Spirit*, from twenty to ſixty or ſeventy Drops, *&c.*

The Queen of Hungary's *Water:*

TAke of the Tops of Roſemary when full of Flowers, what quantity you pleaſe; put them in a Copper-Still, Tinn'd within; Pour upon them three times their weight of Rectify'd Spirit of Wine, with as much clean Water; Lute on the Head; fit a Receiver to the Worm, and make a little Fire of Small-Cole, but not ſo hot as to Elevate any Spirit; and thus let it ſtand twenty four Hours; then give it Fire to cauſe it to Diſtil in a ſmall Thred; and draw off the ſame quantity of Spirit, and half the Water. Then let out the Fire, and take the Roſemary-tops out of the Still, and put one third part of the quantity of Flowers to thoſe already in the Still. Return

turn all the former Diſtillation upon the Flowers; Lute on the Head; Digeſt as before, and draw off by gentle Fire the ſame quantity of Spirit of Wine, which at firſt you put on, which keep cloſe ſtopt for Uſe.

Its *Operation* is Diaphoretick. It is given in Convulſions, Cramps, Palſies, Lethargies, Apoplexies, and Hiſterical Maladies.

Its *Doſe* is from one Drachm to two or three, in a proper Vehicle.

Obſerve, That after the ſame Method with the two fore-going Spirits, you may make the Spirits of all Herbs and Flowers, *&c.* adding to ſuch Herbs as yield no Moiſture, ſo much Water as is ſufficient to keep them from burning.

Obſer-

Obſervations.

IF you have a great quantity to Rectifie, you may put ſeveral Parcels to work in a digeſting Furnace, in five or ſix Veſſels, and you may have of Pure Rectified Spirit two or three Gallons in twenty four Hours time; or it may alſo be Rectify'd in a Copper-ſtill, with its Refegeratory. *Spir. Vin. Rectificat.*

If you let it ſtand thirty or fourty Hours, upon the Salt of Tartar in Digeſtion, before you begin the Diſtillation, the Spirit will the better Imbibe the more Subtle Part of the Salt. *Spir. Vin. Tartariſat.*

The Diſtill'd Vinegar you uſe in this Operation, ought to be Rectify'd ſo often, till it leaves nothing in the bottom of the Veſſel, in which it is Rectify'd in, but a little white Salt. *Spir. Vin. Tartar.*

In this Operation exceed not the Second Degree of Fire, nor draw off above three Parts of Spirit, before you take off the Receiver, which you may do while the Fire is ſtill under it. Then put the Receiver on again, and without ſupplying the Fire any more; let what will come off, till all is cold, which will be about a Pint more, and is a pretty Water to waſh your Fingers and Mouth after Meals. *Spir. Ceph.*

CHAP.

CHAP. IX.

Of VINEGAR.

WINE becomes Eager by a Second Fermentation, caus'd by the loss of some of its most Subtle Sulphureous Spirits, by which Debilitation the Acid Salts predominate, and fix the rest of the Spirits remaining in the Wine.

Distillation of Vinegar.

PUT of good Wine Vinegar into a large Retort, or Body fitted with a Head, what quantity you please, so that one third part remain empty; Place it in a Sand Furnace, and with a Fire of the first Degree, draw off a fifth part, which keep by it self, for it will serve for some Uses: then increase the Fire to the Second Degree, and so continue till all is Distilled, except a small quantity left in the bottom of the Vessel, of the Consistence of Honey. When all is cold, take off the Receiver, and if you would Rectifie it, put it in a clean Vessel; set

it

it in the same Degree of Fire, to separate more Flegm, and in every thing proceed as before, till you come almost to a dry bottom, which however must not be urged too far, for fear it should give an Empyreum to that which is already Distill'd.

Its chief Use is for the Dissolutions and Precipitations of several Bodies.

Spirit of Vinegar.

PUT Distill'd Vinegar upon Filings of *Venus*, or to that Scoria of *Venus* which the Brasiers call *Spittle-dust*, and make it into a Paste; let it stand some time without Heat, to penetrate the *Venus*; Evaporate over a very gentle Fire, till you begin to smell the Fumes of the Vinegar; then take it presently away, and Imbibe it again; let it stand again to Imbibe, without Heat, and then Evaporate as formerly; do this so often till you perceive an eager Scent at the beginning of the Evaporation, which signifies the *Venus* is Satiated with the Distill'd Vinegar: Put this Satiated Calx into a Retort; place it in a Sand Furnace; Fit to it a Receiver, and Lute well the Joint with a wet Bladder; give

it the first Degree of Fire for two Hours, then increase it to the Second two or three Hours more, and so to the Third three Hours longer; at last give it the Fourth Degree for two Hours more; then let all cool, and in the Receiver you will have a Concentrated Vinegar, which is call'd *Spirit of Vinegar*. You may still separate the more Flegmatick Part by Rectification. It has all the Properties of Distill'd Vinegar, but will perform any Operation with more force and in much less quantity.

Observe, That the same *Venus* will serve several times for the Concentration of more Distill'd Vinegar.

CHAP.

CHAP. X.

Of TARTAR.

IT is the Essential Salt of Wine, which after Fermentation separates and adheres to the sides of such Casks as contain the Wine. It is Red and White; the White contains less Earth than the Red; and is therefore preferrable to the Red; the best white Tartar is that of Rhenish-Wine, which comes from *Germany*: The *Lees* of Wine also contain much Tartar, which being dried and Calcin'd, are call'd *Cineres Clavellati*, or Gravell'd Ashes, out of which a Salt of Tartar may be Extracted.

Crystals, or Cream of Tartar.

TAke of Crude Tartar what quantity you please, boil it in Water, till the parts which are capable of Dissolution be entirely dissolved; run the Liquor, whilst it is hot, through a Flannel Bag into an Earthen Pan, and Evaporate till a Pellicle appears: Then set it in a cold place, and suffer it to stand quiet

two or three Days: Afterwards Decant the Liquor, and you will find Cryſtals adhere to the ſides of the Pan, ſcrape them off, and Evaporate the reſt of the Liquor, as before; and ſet it again to ſhoot into Cryſtals; Repeat the Evaporation till all the Cryſtals are ſhot.

Its *Operation* is Cathartick and Diuretick.

Its *Doſe* is from half a Drachm to three Drachms.

The Fix'd Salt of Tartar.

TAke what quantity of Crude Tartar you pleaſe, Calcine it in a Pot (or Glaſs) Houſe; or you may put three or four Pound of it in ſtrong brown Paper, which tye up with Thred, and wet it with Water; then put it upon ſome kindled Charcole, and bury it with more Coles; there let it continue till all that is Combuſtible be conſum'd, and you will find the Calcin'd Tartar in an entire Lump. Diſſolve it in warm Water, then Filter and Evaporate to dryneſs, in a clean Iron, or Earthen Pan, and that which remains is the Fix'd Salt of Tartar, which may farther be Purify'd by Diſſolution, Filtra-

Filtration, and Evaporation, till in the Diſſolution it leaves no Fæces at all.

It is a good Aperitive Salt, and us'd to draw forth Tinctures from Vegetables, and is given in all Obſtructions.

Its *Doſe* is from fifteen Grains to one Drachm.

Some think it of the ſame Uſe with every fixt Vegetable Salt.

Let this Salt be laid in a Cellar, or other cool moiſt place, and it will attract the Air ſo as to Liquifie it, which after Filtration we call Oil of Tartar, *per deliquium.*

It is endued with all the Vertues of the Salt, and is ſometimes dropt in Lily, Bean-Cod, or Orange-flower-water, to clear the Complexion.

Soluble Tartar.

MIX four Ounces of Salt of Tartar, with eight Ounces of Cream of Tartar, and pulverize them together; put them into an Earthen Pan, whereinto you have pour'd three Pound of Spring-water; boil them till they are diſſolved, and remember to ſtir them

now and then. Filter the Dissolution whilst it is warm; Evaporate to Dryness, and keep it in a Glass well stopt.

Its *Operation* is Cathartick and Diuretick.

It is given in Obstructions, Cachexies, and Dropsies.

Its *Dose* is from one Scruple to a Dra. or a Drachm and an half, in Broth or any other proper Vehicle.

Chalybiated Soluble Tartar.

TAke half a Pound of the Tincture of Tartar made with Steel, and put it into a Glass Body; pour upon it two Ounces of the aforesaid soluble Tartar; set the Glass in a gentle Heat of Sand to Evaporate; stir it about sometimes with a clean wooden Spatula; and when 'tis dry, you will have a black Powder, which keep in a Vial well stopt.

It is a good Aperitive, and is Endow'd with all the Vertues of the Tincture of Tartar, with *Mars*, according to the description in the Chapter of *Mars*.

Its *Dose* from one Scruple to one Dra. or one Drachm and half.

Chaly-

Chalybeated Tartar.

POur three Pints of Spring-water into an Earthen-Pan, and ſet it over the Fire to boil; as ſoon as it boils, put in half a Pound of Cryſtals of Tartar, and half an Ounce of *Vitriolum Martis*, finely powdered apart, and ground together. Let them boil a quarter of an Hour, ſtirring them with a wooden Spatula, till they are diſſolved: Then ſtrain the Mixture, boiling hot, through a Cotton Bag, into a clean Pan, and ſet it in a cold place to Shoot into little Greeniſh Cryſtals.

It is endued with the Qualities of the fore-going Preparations; and its Doſe from one Scruple to one Drachm.

Emetick Tartar.

TAke Cream of Tartar half a Pound, *Crocus Metallorum*, two Ounces, let them be very finely powdered, and after they are well mixt, put them into a Glas'd Pot; and add two Pound of Spring-water; let them boil ſeven or eight Hours, ſtir them often, and as the

Water wastes, supply it; Take off the Mixture from the Fire boiling, and run it presently through a Flannel Bag; then Evaporate two Thirds in a Glass Body in Sand, and set it in a cold place to Shoot; separate the Superfluous Water, and Evaporate as before; gather the Crystals, dry them gently, and keep them in a Vial for Use.

It is a gentle Emetick.

Its *Dose* from three, to ten or twelve Grains.

The Soluble Emetick Tartar.

PUlverize four Ounces of Crystals of Tartar, with one Ounce of *Crocus Metallorum*, grind them well together, and put them into a Glass Body. Pour upon them half a Pound of Spirit of Urine; and when the Ebullition is well over, add twelve Ounces of Spring-water. Boil them in a Sand Heat seven or eight Hours, supplying the Liquor as it consumes: Take it from the Fire as hot as you can, and run it through a fine Flannel Bag; then Evaporate it gently, till it is dry, and keep it in a Vial for Use.

It

It is a very gentle Emetick.

Its *Doſe* from four to fifteen Grains, in Broth, or thin Water-gruel.

The Emetick and Cathartick Salt of Tartar.

TAke of Salt of Tartar half a Pound, *Crocus Metallorum* two Ounces; make them both into fine Powder, and mix them well; Put them into a Crucible, and let them melt together half an Hour; then take it from the Fire, and diſſolve it in clean Water; Filter the Diſſolution, and Evaporate till a Skin appears: Then drop gradually into it Oil of Vitriol, till the Ebullition ceaſes, and over a gentle Heat of Sand Evaporate to dryneſs; ſtir it in the Evaporation with a Glaſs Spatula, or clean Tobacco-Pipe; and when it is cold, put it up in a wide-mouth'd Vial, well ſtopt, for Uſe.

Its *Operation* is Emetick and Cathartick.

It is a *Febrifuge*, given with good ſucceſs in Tertian and Quartan Agues, alſo in Dropſies, Scurvy, Jaundice, and Hypochondriack Melancholy.

Its *Doſe* is from three, to fifteen Grains.

Vitrio-

Vitriolated Tartar.

PUT what quantity of Oil of Tartar you pleaſe into a Glaſs Cucurbit, drop gradually upon it Rectify'd Oil of Vitriol, till the Ebullition ceaſes: Then Evaporate the Humidity in a gentle Heat of Sand, and there will reſide a very white Vitriolated Tartar, which keep in a wide-mouth'd Glaſs, well ſtopt.

It is a little Cathartick and Diuretick, and a good Aperitive, given in Quartans, in Scrophulous and Hypochondriacal Caſes.

The Soap of Tartar.

TAke Rheniſh-wine Tartar, or Cream of Tartar, and Salt Peter, of each one Pound, in Powder; mix them well together, and put them into a red hot Crucible, by a Spoonful at a time; when 'tis melted take out the Mixture, with a little Iron Ladle, and put it into a warm Earthen Pan, adding to it ſo much warm Water as is neceſſary to Diſſolve it; Filter and dry it into a Salt, and grind it to Impalpable Powder, or as fine as poſſibly

ſibly you can; then put it into a wide mouth'd Glaſs, and Expoſe it to the Air, till it is a little moiſtened, which it will ſufficiently be in ſixteen, eighteen, or twenty four Hours, according to the moiſtneſs or dryneſs of the Weather. Then put to each Pound of the Salt, four Ounces of Rectify'd Oil of Turpentine; ſtir them well together with a wooden Spatula, till they ſeem to be Incorporated: Then ſet the Mixture aſide, and cover it, to keep out the Duſt; ſtir well two or three times a day, till you perceive the Oil and Salt Incorporated, and of the Conſiſtence of a Syrup: If it wants Oil to make it of that Conſiſtence, add more.

This Soap is an excellent Diuretick, and ſomething Cathartick; and is given in the Stone and Gravel in the Bladder or Kidnies.

Its *Doſe* from one Scruple to a Dram, in a little fine Sugar.

It is call'd the Corrector of Vegetables; and the chief Ingredient which Corrects the Opium in *Starky*'s, or *Matthews*'s Pill.

The Diſtill'd Oil and Spirit of Tartar.

FILL an Earthen, or Coated Glaſs Retort, half full with Cream of Tartar; place it in a Reverberatory Furnace; and Lute to it its Receiver; Let the Fire of the firſt Degree be for three Hours, then increaſe it to the Second three Hours longer, and on to the third three or four Hours more; at laſt to the fourth Degree, where keep it till no Fumes aſcend any more into the Receiver, in which you will find a Fœtid Oil and Spirit; you may ſeparate the Oil by Filtering it through a Coffin of Paper; then put the Spirit in a long-boll'd Retort, and in a gentle Heat of Sand Rectifie it, and ſeparate the Flegm which comes over after the Subtle Spirit.

To make this Spirit more Aperitive and Excellent, to three parts of the Oil and Spirit which your Diſtillation produced, put one part of *Spiritus Nitri Dulcis*; ſhake them well in the Receiver, and put them carefully into a clean Glaſs Retort, which ſet in a Sand Furnace; Fit and Lute on a Receiver, and give it a Fire of the Firſt Degree, till the Lute be dry; then advance to the Second, in which you will have a moſt Penetrating and

and Grateful Spirit, which is one of the most powerful Diaphoreticks that I know. It is also Diuretick and Anodine.

It is given in the Palsie, Epilepsie, Asthma, Histerical Maladies, Scurvy, and in Fevers, with good succes.

Its *Dose* is from two Scruples to two Drachms, in any proper Vehicle.

A Volatile Salt of Tartar.

TAke the Lees of Wine, and dry them gently, when dry, beat them into gros Powder; fill a Glas coated, or Earthen Retort, half full with them; Place it in a Reverberating Furnace; give it gentle Fire to drive off the Flegm which first comes over; and when you perceive Fumes to rise, fit and lute on the Receiver, augmenting the Fire gradually, till at last, with the most extream degree, no more Fumes will arise. Then let all cool, and take off the Receiver, in which you will find a whitish Liquor, which contains the Volatile Salt, and upon it will swim a little Fœtid Oil; put it into a Vial, and with a little clean Water rinse out the Salt which adheres to the sides

ſides of the Recipient, and put it to the reſt. Then put them into a Coffin of brown Paper, and the Spirit with the Salt will paſs through, and leave the Oil in the Coffin.

Put the Spirit into a long Matraſs, fit to it a Head and Receiver; lute the Joints well, and with a gentle heat of Sand ſublime the Salt into the Head; when it is pretty well charged, take off that Head, and preſently fit on another, and continue the ſame degree of Fire, till the Salt begins to melt, then change the Head, and augment the heat a little to diſtil the volatile Spirit of Tartar; when the Drops are inſipid, take off the Receiver, and keep the Spirit from the Air in a Vial well ſtopt, becauſe of its volatility, as alſo the Salt; for if the leaſt Air be admitted, it will relent.

Its *Operation* is Diaphoretick and Diuretick.

Its *Doſe* from ten Grains to half an Ounce; it is a Medicine much eſteemed by many Phyſicians; and is given in the Palſie, Apoplexy, Epilepſie, Tertian and Quartane Agues; it opens all obſtructions, and provokes the Terms; The volatile Spirit is ſome of the Flegm impregnated with the Salt, and endued with the ſame Vertues, and given from ten drops to two ſcruples.

Another

Another Volatile Salt of Tartar.

TAke the satiated Salt of Tartar described to make the true Tartariz'd Spirit of Wine; fill a coated Retort half full with it; place it in an open Furnace, lute on a Receiver, and give it gradual Fire, observing the same Method as in the former Operation, both in the distilling and rectification.

Tincture of Tartar.

PUT a pound of pure Salt of Tartar into a Crucible; Place it in a Melting Furnace, and let it heat gradually, till it is of a white melting heat; cover it well with Coles, and keep it in the most extream degree of Fire, five or six hours; then pour it into a warm Mortar, and whilst warm, powder it, and put it into a Matrass, heated upon warm Sand to preserve it from breaking with the hot Salt. Then pour upon it twenty ounces of Tartariz'd Spirit of Wine, invert and lute well to it another Matrass to make it a double Vessel; make a gentle Fire, and let it simper six or seven

seven hours, and in that time it will acquire a good Tincture, which when cold, put it into a Vial, and keep it well stopt.

Its *Operation* is Diaphoretick and Diuretick; it is an excellent aperitive, and a good anti-scorbutick.

Its *Dose* from ten to fifty or sixty Drops, in any convenient Vehicle.

Observations.

Cream of Tartar. IF you dry the crude Tartar in an Oven, till it is a little scorcht (not calcin'd) to evaporate some of its acid Particles, it will dissolve more easily, and the Cristals will be larger and whiter than otherwise they would be.

Salt of Tartar. The first Evaporation may be made in a clean Iron Pan, which ought to be kept stirring when it begins to coagulate, till it is quite dry; and if you design a farther purification, and that it is not so white as you expect it; put it into a Crucible, and set it in a little Charcole Fire (so that it do not melt) and in a quarter of an hours time it will be very white.

If

If you desire it to crystallize, evapo- *Soluble Tartar.*
rate only till a skum appears; then in a
clean Earthen Pan, or wide-mouth'd
Glass, set it in a cold place to shoot into
Crystals, which must be carefully dry'd,
and kept close stopt, because they are apt
to dissolve.

Be careful in the drying of it, that it *Chalybeat. Sol. Tartar.*
be not burnt, because Burning deprives it
of its Cathartick Quality.

It may be made with the Vitriol, or *Chalybiat. Tartar.*
Filings of *Mars*; if you put one Ounce
and a half of Filings in the place of half
an Ounce of Vitriol; and bake the com-
mon Crystals of Tartar to a browneness,
it will dissolve with more ease, and the
Crystals will be fairer.

It may be made with *Crocus Metallo-* *Emet. Tart.*
rum, *Vitrum Antimonii*, Flower of Anti-
mony, or *Mercurius Vitæ*. The Cream
of Tartar as before, being baked, will
render the Emetick Crystals more large
and fair.

The Spirit of Urine partly satiates *Soluble Emet. Tart.*
the Acidity of the Tartar, by which it
more readily dissolves. Take care to
dry it without burning.

Emet. Cathart. Salt of Tartar. This Evaporation will be best performed in a Glass Cucurbit, because the Inspissation of the Oil of Vitriol would prey upon the Glasing of an Earthen Vessel, to the Prejudice of the Medicine.

Vitriolated Tartar. It may be made of pure Salt of Tartar, instead of the Oil, Inspissating the Oil of Vitriol upon the Salt, and stirring it with a Glass Spatula, or clean Tobacco-Pipe, till the Fermentation is over. But take care you do not Evaporate too much, least you deprive it of the Acidity it ought to retain.

Soap of Tartar. The Salt may be Evaporated in a clean Iron Pan; and if it be a little moistened by the Air, before the Oil is put to it, their Union will be facilitated thereby. You may also Distil the Oil of Turpentine from Aromatick Herbs and Spices, to give it an agreeable Scent. The older this *Sapo* is the better 'tis: I have several Ounces of it by me now, which I made in the Year 1665. which I value as much as its weight in Gold.

Distillat. of Tartar. The Flegm may be separated either at the first Distillation, or in its Rectification: If at the first Distillation, put on the Receiver, without Luting it, and when

when the white Fumes appear, change, and Lute on the Receiver.

If you can have ſuch Lees as the Juice is preſs'd out of by thoſe who make Vinegar, it will ſave you the labour of drying them, and will be altogether as good for this Operation. And if in the Rectification you deſire to preſerve the Salt in a dry Form, you muſt be watchful; and when you ſee the Salt have the leaſt Inclination to Diſſolution, you muſt change the Head; preſently take out the Salt, and put it in a dry Vial, well ſtopping it, to preſerve it from the Air, which would preſently diſſolve it. But if ſo much Water come over with it, as to render it in a Liquid Form, it then has the ſame effect with the Salt, being given in a greater Doſe. *Vol. Salt of Tartar.*

If after the Rectification you ſeparate the Flegm from the Oil, and return the Volatile Spirit upon it, and put to them a third their weight of ſweet Spirit of Nitre, digeſt them in a double Veſſel two or three Days, in a gentle Heat, then Un-lute the Veſſel, and Fit and Lute on a Head, with its Receiver, and you will obtain, with a gentle Heat, a moſt Excellent and Penetrating Salt and Spirit.

Tincture of Tartar. Melt not less than one Pound of the Salt, because it wastes considerably, by long Fusion, and be sure that your Spirit of Wine be totally Deflegamted, otherways your Tincture will not be full.

CHAP.

CHAP. XI.

Of ALOES.

IT is the Juice of a Plant called *Semper Vive*, which grows in *Egypt*, the Iſland of *Soccotra* in the *Perſian-Gulph*, in the Iſland of *Berbadoes* in the *Weſt-India's*, and other places.

That of *Soccotra* is counted the beſt, becauſe they Tranſplant and Cultivate it, but in other places they uſe the Plant wild, as they find it: Every Country produces two ſorts of it, *viz.* that made of the Juice which drops from the Plant by Inciſion, and that made of the Expreſſed Juice. *Hepatick Aloes* is that ſort made by Inciſion in all Countries, and takes its Name from its ſimilitude to the Liver.

Extract of Aloes.

DIſſolve what quantity of Aloes Succotrine, or Hepatick, you pleaſe, in the Diſtilled Water of Roſes, Sucory, Borage, or any other, Filter the Diſſolution through a Flannel Bag, and Eva-

porate to the Consistence of an Extract: A better Extract is made with Spirit of Wine; but the best is made with Tincture of Tartar, which does not only Correct the Crudity of the Aloes, but that pure Salt of Tartar the Spirit of Wine is thereby Impregnated with, will preserve it in its full Vertue, and due Consistence very many Years.

Observe, That if the Aloes be very good, it will almost all Dissolve, leaving nothing behind it but some dirt, which accidentally, in its drying, falls into the Juice.

CHAP.

CHAP. XII.

Of MYRRHE.

IT is a Resinous Gummy Juice which drops from a little Thorny Tree by Incision. The best is in Transparent smooth Drops, and when new, of a whitish Colour, but in time becomes yellow, but continues Transparent, and breaks with little white specks in it; such as this is not often met with: but of such as is commonly vendible, choose that which is Yellow, or Red, Bitter, Transparent, and of a grateful smell.

It grows in *Abyssine* in *Africa*, and *Moco* in *Asia*: That of *Abyssine* comes through *Egypt* into *Europe*; and that from *Moco* by the Caravans to *Aleppo*, *&c.*

Tincture of Myrrhe.

PUT into a Matras of Fine Myrrhe in Powder, one Pound, of Spirit of Wine four Pound; invert another Glass into the Mouth of the Matras, to make a double Vessel; Lute the Juncture, and

ſet it in a gentle Heat of Sand, to Extract its Tincture.

It is Sudorifick and Aperitive. It is given in the Apoplexy, Lethargy, and Palſie, is good to Expedite Womens Labour, and is often apply'd outwardly.

Its *Doſe* is from eight to twenty four Drops in a proper Vehicle.

Oyl of Myrrhe by Diſtillation.

FILL a Retort half full with coarſe Myrrhe; place it in a Sand Furnace, and Lute to it a Receiver; give it Fire by Degrees, to the greateſt height; when the Fumes ceaſe, let out the Fire, and in the Receiver you will have a Fœtid Oil, and an Acid Spirit.

The Oil is Externally apply'd, to bring ſtubborn Ulcers to Suppuration. The Spirit is Diaphoretick and Diuretick.

Its *Doſe* is from eight to twenty four Drops, in a proper Vehicle.

Oil of Myrrhe, per deliquium.

BOil Eggs till they are hard, split them in the middle, and take out the Yelks; fill the Cavity with fine Myrrhe, in Powder; place them upon little Sticks of about an Inch and a quarter long, three or four of them being prickt into the Egg, set them in a clean Earthen Pan, which place in a Cellar, or some such moist place, and there will drop from them into the Pan, a Liquor, which is call'd *Oil of Myrrhe.*

Its Use is to take away Spots and Blemishes on the Skin, outwardly apply'd.

Observations.

SHake the Myrrhe and Spirit of Wine well, two or three times every Day, and let it be charged with a full Red before you pour it off from the Myrrhe, which will require two or three Days time. *Tincture of Myrrhe.*

You

Oil & Spir. of Myrrhe. You may Rectifie the Oil and Spirit together, and then separate them; then put to the Spirit a fourth part of its weight of *Spiritus Nitri Dulcis*, and Rectifie them; by which the Spirit will be rendred more agreeable both to Smell and Taste, and made more Aperitive.

The Oil per deliquium. It is improperly call'd Oil, being only some of the most subtle Parts of the Myrrhe Liquify'd by the Moisture of the Air. If any Dirt has accidentally fallen into the Deliquiated Oil, you may Filter it through Paper.

CHAP.

CHAP. XIII.

Of SAFFRON.

IT is a Flower which comes to its Perfection in the latter end of *September*, and in *October*. That of *England* is accounted the beſt, both for the largeneſs of the Leaf, its Fragrancy and Colour. The *Engliſh* have alſo a way to Preſerve it, exceeding that of any other Country.

Tincture and Extract of Saffron.

PUT four Ounces of good *Engliſh* Saffron into a Matras, with twenty four Ounces of Spirit of Wine; let them ſtand in a gentle Heat of Sand fourty eight Hours, ſometimes ſhaking them, and you will find the Spirit well charged with the Tincture of the Saffron; Pour off the Tinged Spirit, and put on one Pound more, proceeding as you did before, and you will have a Second Tincture, but not altogether ſo deep as the Firſt; put both the Tinctures into a Cucurbit;

curbit; place it in Sand; Lute on its Head and Receiver, and in a gentle heat draw one half of the Spirit of Wine off, and that which remains behind will be a ſtrong Tincture.

This Tincture is made into an Extract by Evaporating it into a due Conſiſtence.

Obſervations.

Tincture of Saffron. After Decantation of the Tinged Spirit, you may add new Spirit of Wine, as long as it yields any Tincture, and then put all the Tinged Spirits into a Cucurbit, and draw off, till you leave not above twenty Ounces of Tincture in the Cucurbit.

Extract. In a very gentle Heat of Aſhes Diſtil off as much Spirit of Wine as you can, without burning the Extract; then pour it into the bottom of a Glaſs cut ſhallow, or a clean ſmooth Earthen Veſſel; ſet it upon ſo much Hay or Straw as to ſtand firm in a *Balneum*; and in that Heat keep it continually ſtirring, 'till it is Evaporated into an Extract.

CHAP.

CHAP. XIV.

Of ELIXIRS.

ELixir is the Name of a Medicine intended to Heal all Humane Diſeaſes, and remove the Impurities of imperfect Metals. But my deſign is only to handle thoſe Vegetables whoſe Eſſential Parts being ſeparated from the groſſer and more Feculent, by proper Menſtruums, and the Induſtry of the Artiſt, will yield greater Medicines by the Union and Conjunction of their Vertues, and ſo may not improperly, though ſubordinately, be called by the Name of *Elixirs*. And firſt of *Elixir Proprietatis*.

Elixir Proprietatis, with Oil of Sulphur.

TAke of the beſt Aloes, fine Myrrhe, and *Engliſh* Saffron, of each one Ounce; let the Myrrhe and Aloes be beaten into fine Powder, and the Saffron cut into ſmall pieces; put them into a long Body, or Bolt-head, and put to them

them six Ounces of Tartaris'd Spirit of Wine; make the Vessel double, fit for Circulation, and set it in a gentle Heat for seven Days, shaking it once or twice a Day; then un-lute the Vessel, and put to the Tincture nine Ounces of *Ol. Sulph. per C.* by an Ounce at a time; and when all is in, shake them well; Lute on the other part of the Circulatory, and let them stand in Warmth fourteen Days, agitating them as before, once or twice a Day; then let them cool, and press out all the Moisture through a strong Cloth; let it stand till settled, and by Decantation separate the Elixir from the Fœces; put it in a Vial, and keep it close stopt for Use.

Its *Operation* is Diaphoretick and Aperitive: It Fortifies the Heart, and Purifies the Blood, Creates an Appetite, and helps Digestion; and some count it a great Preservative against Pestilentious Air; with many other Vertues.

Its *Dose* is from ten to fifty, or sixty Drops, in Wine and Water, Beer or Ale, Broth or Spring-water, or any other Vehicle appropriated to the Disease you would remove by it.

Elixir

Elixir Proprietatis, with Tincture of Tartar.

TAke of Select Myrrhe, Aloes and Saffron, *ana* one Ounce; beat and cut as before; put them in a Veſſel of Circulation, and pour upon them twelve Ounces of Tincture of Tartar; place them in a gentle Heat, to ſtand twenty one Days, ſhaking the Mixture every Day; then let it cool, and preſs it out as you did the former; let it ſettle; Decant the Elixir from the Fœces, which put in a Vial, and ſtop it for Uſe.

Its *Operation* is Diaphoretick and Diuretick; and is ſaid to have all the good Qualities of the former, and to be more Aperitive, and a greater Sweetener of the Blood.

Its *Doſe* is from one Scruple, to one Drachm and half.

Elixir

Elixir Proprietatis, with Spirit of Harts-Horn.

TAke of the beſt Myrrhe, Aloes and Saffron, *ana* one Ounce, Tartaris'd Spirit of Wine eight Ounces, Spirit of Harts-Horn four Ounces, and proceed in every thing as in the preceding Proceſs.

This is alſo Diaphoretick and Diuretick, and endued with the Vertues of the former, but more Effectual in Hyſterick Vapours.

Elixir Proprietatis, with Sal. Volat. Oleoſum.

TAke of choice Myrrhe, Aloes, and Saffron, *ana* one Ounce; place them in a Circulatory Veſſel, and put to them of Tartaris'd Spirit of Wine four Ounces, and of *Sal. Vol. Oleoſum* nine Ounces, and proceed in every thing as before.

It is Diaphoret. and Diuret. is proper in all Caſes where the former is uſeful, and more agreeable both to Scent and Taſte.

Its *Doſe* the ſame with the other.

The Anti-Peſtilential Elixir Proprietatis.

TAke of Myrrhe, Aloes, Saffron, and Camphire, *ana* one Ounce, *Virginia*-Snake-Root four Drachms, and Cocheneal half an Ounce; Powder what is to be powdered, mix the Ingredients, and put them into a Matras; pour upon them *Spiritus Nitri* dulcify'd twelve Ounces, and let them ſtand in Digeſtion twenty one Days, obſerving every thing as in the fore-going Proceſs.

This is ſaid to be the moſt powerful Medicine againſt the Plague, and all Contagious Diſeaſes, that is yet known: It expels Wind, and is an excellent Remedy againſt the Cholick, and all Gripings of the Stomach and Bowels; a great Aperitive, and gives Eaſe in the Stone, both in the Reins and Bladder; alſo in the Meaſles and Small-Pox, a better Medicine is not known.

Its *Operation* is Diaphoretick and Diuretick.

Its *Doſe* is from half a Scruple to one Drachm, or one Drachm and a half, in any proper Vehicle.

The Volatile Elixir Proprietatis.

IT is the fore-going Elixir with Spirit of Wine six Ounces, and Oil of Sulphur nine Ounces, with the same Proportions of Myrrhe, Aloes and Saffron, which after Digestion must be Distill'd in a gentle Heat, with two Cohobations of the same Spirit, and must be drawn off with three Days Digestion between each Cohobation.

It has the same Vertues of most of the Preceding Elixirs, and is more agreeable to the Palates of many People.

Its *Operation* is Diaphoretick and Diuretick.

Its *Dose* from ten Drops to a hundred, in any proper Vehicle.

Elixir Vitrioli.

TAke Galangal one Ounce and a half, Calamus Aromaticus, Mint, and Sage dryed, *ana* half an Ounce, Cinnamon, Cloves and Ginger, *ana* three Dra. Nutmegs and Cubebs, *ana* two Drams, Lignum Aloes, and Lemon-peel, *ana* one Drachm,

Drachm, white Sugar-Candy, three Ounces, all Pulveris'd; put them into a Matras, and pour upon them Oil of Vitriol, one Pound, Spirit of Wine one Pound and an half; Invert another to make it a double Veſſel; Lute the Joint, and ſet it in a gentle Heat to Digeſt, fifteen or twenty one Days. It is counted a good Stomachick.

Its *Doſe* is from ten, to ſixty or ſeventy Drops.

Elixir Pæoniæ.

TAke of the *Engliſh* Roots of *Palma Chriſti*, *Pyrethri*, *ana* one Ounce, Miſſetoe of the Oak, Fennel-Seeds, *Anacardi*, *ana* ſix Drachms, Roſemary-Flowers, *Stæchad. Arab.* Lavender, *ana* three Ounces, Shavings of Harts-Horn, Elks-Hoof, Man's Skull, *ana* one Drachm and a half, Marjorum one handful, Rectify'd Spirit of Wine two Pound; Digeſt theſe fourteen Days, and then Diſtil in *Balneo Mariæ*; to which add the Roots, Flowers, and Seeds of *Pæony*, *ana* one Ounce, *Spec. Diamoſci Dulcis*, *Diaxylo-Aloes*, of each half an Ounce; Digeſt them a Month, and Filter.

To twelve Ounces of this Tincture add one Drachm and a half of Salt of *Pæony*, and four Ounces of Spirit of *Vitriol* Rectify'd and Impregnated with Native *Cinaber*. Then Circulate them into an *Elixir*.

Otherways 'tis made as followeth.

TAke the Root of *English Pal. Christi*, *Pyrethri*, Misletoe of the Oak, Fennel-Seeds, *Anacard.* Rosemary-Flowers, Marjorum, *Stæchad. Arab. Castor.* and Lavender, in the fore-going quantities: And instead of the Shaving of Harts-Horn, Elks-Hoof, and Man's Skull, take of the Aromatick Spirit of Harts-Horn, hereafter-mentioned, half an Ounce: Digest them all in two Pound of Rectify'd Spirit of Wine fourteen Days; at the end of which Distil them in *Balneo Maris*, or a gentle Heat of Sand or Ashes, and to every Pound of this Distill'd Spirit, add four Ounces of Rectify'd Spirit of Vitriol, the Roots, Flowers, and Seeds of *Pæony*, *ana* one Ounce; *Spec. Diamosc. Dulcis*, *Diaxylo-Aloes*, of each half an Ounce, and with one Dram of Salt of *Pæony*, Circulate into an Elixir.

Elixir

Elixir Salutis.

TAke Leaves of Sena half a Pound, Jalap in Powder four Ounces, *Enula Camp.* alſo in Powder, and Liquoriſh, *ana* two Ounces, Juniper-Berries, Anniſeeds, and Coriander-Seeds, *ana* one Ounce, Cream of Tartar, one Ounce and a half, Honey and Manna, of each two Ounces; ſlice the Liquoriſh; put them all into a Glaſs Body, and put to them *French Brandy*, or clean *Engliſh* Proof Spirit, four Quarts; Lute on a Glaſs, to make a Circulatory, and let them ſtand in a gentle Heat of Sand two or three Days; then pour off the Liquor, and preſs it out from the Ingredients, and let it ſtand in a Veſſel cloſe ſtopt twenty four Hours to ſettle; then by gentle Inclination, pour it from the Fœces, and keep it well ſtopt for Uſe.

Its *Operation* is Cathartick and Diuretick.

Its *Doſe* is from half a Spoonful, to three or four Spoonfuls, either by it ſelf, or in any convenient Vehicle.

Elixir, or Balsamum Polychrestum.

TAke Salsaparilla four Ounces, China-Root, and Guiacum rasped, *ana* two Ounces and a half; let the Salsapar. and China be grosly powdered, put them into a Matras, with three Pound of Tartaris'd Spirit of Wine; stop the Mouth of the Matras with a little Egg, or Bolt-Head; Lute it well, and set it on warm Sand, to digest three Days, shaking it now and then. Then let it cool, pour out the tinged Spirit, and press what you can from the Ingredients; put the Tinged Spirit into the Matras again, and add to it of Gum Guiaci in Powder, nine Ounces; Lute up the Glass, and let it stand in Digestion three or four Days, and shake it often every Day. Then let it cool and settle, and pour off the Tincture from the Sediment; put the Tincture into a clean Matras, and put to it one Ounce of Balsam of *Peru*, and half an Ounce of Balm of *Gilead*; mix them with the Tincture by much Agitation; let them stand in Digestion, as before, three or four Days longer, and shake them often; when the Balsam is well Incorporated with the Tincture, pour it off clear into a Vial, which stop and keep for use.

It is Cathartick, and ſometimes Diaphoretick.

Its *Doſe* is from ten, to ſeventy, eighty, or a hundred Drops, in any proper Vehicle.

To theſe Elixirs there needs no other Obſervation than to make good choice of the Ingredients, to Lute the Joints of the Circulating Veſſels well, and to moderate the Heat ſo, as not to endanger the breaking of them.

CHAP

CHAP. XV.

Of OPIUM.

IT is a Juice which Diſtils from the Heads of Poppies by Inciſion, found in the Kingdom of *Cambaia*, about *Grand Cairo* in *Egypt*, and *Thebes* in *Greece*. Some tell us of three ſorts, *viz.* Black, Yellow, and White; but none of theſe come frequently amongſt us, the Inhabitants of thoſe Countries keeping them for their own uſe, and ſending us the expreſt Juice of Poppy-heads, thickened and wrapt up in Leaves, for the Convenience of Tranſportation: It is properly call'd *Mecoacan*; ſuch may be alſo Expreſt from Poppy-Heads, which grow in *Italy*, and the Southern Parts of *France*, but not ſo ſtrong as the former.

That which comes from *Thebes* is accounted the beſt. Chooſe that which is Black, breaking with a little caſt of Yellow, free from little Stubs or Leaves, a little Acrimonious, of a very bitter Taſte, and a diſagreeable Stupefactive Scent.

Extract

Extract of Opium.

PUT four Ounces of good Opium in thin Slices, into a glaſs Body, wherein there is two Pound of Spring-Water; ſet it in Sand, and ſtop the Mouth of the Body with another Glaſs, make Fire under it, till by gradual Heat it is made to Boil, in which ſtate keep it two or three Hours, then let out the Fire, and whilſt the Diſſolution is hot, run it through a Flannel Bag, and preſs it ſtrongly with your Hand, into an Earthen Veſſel; put that which remains in the Bag into a Matras, in which there is a quart of Rectify'd Spirit of Wine; make a double Veſſel of the Matras, and let it ſtand in Digeſtion twenty four Hours, now and then ſhaking it. Then take it out, and when 'tis cool, run it alſo through a Flannel, as before; put the Spirit of Wine which is charged with the Gummous Part of the Opium, that the Water was not capable of diſſolving, into a Cucurbit, and in a gentle Heat draw off two Thirds of the Spirit of Wine, which will ſerve again for the ſame Uſe. Then put both the Extractions together, and in a clean Earthen-Pan, with a moderate Fire Evaporate, till it is of a Conſiſtence fit to form into

to Pills, which put up in a Gally-pot for Use.

It is the most certain Anodine yet known to Physicians, and is fit for any Compound Laudanum.

Its *Dose* from half a Grain to two or three Grains.

Dr. Goddard's *Compound Extract of Opium.*

TAke of Saffron and Nutmegs, *ana* one Ounce, of Castor. half an Ounce: slice the Nutmegs and Castor. thin, and put them into a Matras, with the Saffron; put to them twelve Ounces of Tincture of Tartar; set them in a gentle Heat of Sand (with the Mouth of the Matras well stopt) in Digestion twenty four Hours, shaking it now and then; then let it cool, and press it through a Cloth into a clean Earthen Pan; what stays in the Bag put into the Matras again, and put to it half a Pound of Rectify'd Spirit of Wine; let it stand warm twelve Hours, and strain it off to the other; into these Tinctures put five Ounces of the Extract of Opium, set them over a gentle Fire to Evaporate into an Extract.

It

It is a good Soporifick, cauſing reſt, and alleviates all Pains, in what part of the Body ſoever.

Its *Doſe* from half a Grain to three or four Grains.

Liquid Laudanum, with Juice of Quinces.

TAke two Ounces of good Opium, one Ounce of *Engliſh* Saffron, and one Pound and an half of the Juice of Quinces. Let the Opium be thin ſlic'd, and with the Saffron be put to the Juice of Quinces, in a Glaſs Body; ſome adding Yeſt of Ale to Ferment it. Set them in a gentle Heat of Sand, to digeſt till the Fermentation is over, and the Saffron ſubſides. Then expreſs the Juice, and let it ſtand to ſettle: when 'tis ſettled, pour it off by gentle Inclination; put the Liquor into a Matras, and put to it two Ounces of Cinnamon, one Ounce and an half of Cloves, and one Ounce of *Jamaica*-Pepper; let them be bruiſed, and put them into the Liquor to ſtand in Digeſtion fourteen Days. Then again expreſs the Juice, gently Evaporate it to a due Conſiſtance, and put it up for Uſe.

Its

Its Vertues are the ſame with the former.

Its *Doſe* is from ten, to fourty or fifty Drops.

Liquid Laudanum, with Tincture of Tartar.

TAke choice Opium two Ounces, Saffron one Ounce, Cinnamon two Drachms, Nutmegs and Mace, *ana* one Drachm. To theſe Ingredients in a Matras, put twenty four Ounces of Tincture of Tartar; make the Matras a double Veſſel; Lute well the Joints, and ſet them in a Heat of Digeſtion three Days, ſhaking them every Day. Then open the Veſſel, and add to the Mixture two Ounces of Juniper-Berries bruiſed; Let it ſtand in Digeſtion three Days longer, then let it cool, and preſs it through Flannel. Put the expreſt Liquor into a Cucurbit, and with its Head and Receiver Luted; ſet it over a gentle Fire of Aſhes; draw off eight Ounces of the Spirit; let that which remains cool, and decant it gently from the Fœces, into a Vial well ſtopt, which keep for Uſe.

Its Vertue and Doſe the ſame with the fore-going.

Dr.

Dr. Sydenham's *Liquid Laudanum.*

TAke Select Opium two Ounces, Saffron one Ounce, Cinnamon and Cloves powdered, *ana* one Drachm; put them in a Matras, and pour upon them one Pint of good Canary-wine; let the Matras be fitted for Circulation, and ſet them in good Heat of Digeſtion for three or four Days; then preſs them through Flannel; let the Liquor ſettle, and by gentle Inclination pour it into a clean Vial, and keep it for Uſe.

Its *Operation* the ſame with the foregoing.

Its *Doſe* is from ten to fourty or fifty Drops.

Liquid Laudanum, with ſweet Spirit of Nitre.

TAke two Ounces of the beſt Opium, which ſlice, and put into a Matras, with one Ounce of Saffron; and to them one Pound of *Spiritus Nitri Dulcis*; invert into the Mouth of the Matras another Glaſs; Lute it, and ſet it in Digeſtion five Days (ſhaking it about every

every Day) then let it cool, and drop into it (by degrees) one Ounce and an half *Sal Volatile Oleosum.* When the Fermentation is over, Stop and Lute it up again, and let it stand three Days longer in Digestion: Then let it cool, and set it inclining to settle, and gently decant it into a Vial for Use.

It is an excellent and certain Anodine, and a great Expeller of Wind, and seldom or never, that I have yet heard of, offends the Stomach or Bowels of the Patient.

Its *Dose* is the same with the former.

Liquid Laudanum, made with the Volatile Oily Salt.

TAke four Ounces of the Extract of Opium, put it in a Marble Mortar, grind it with half a Pound of Tincture of Tartar, which must be put to it by two Ounces at a time, grind them till the Opium is well mixt with the Tincture of Tartar; then put them into a Matras, and put to them one Pound of *Sal. Vol. Oleosum*, upon which you must drop half a Drachm of sweet Spirit of Nitre, shake them

them well together, which will produce a little Fermentation; when that is over, make a Circulating Veſſel of the Matras, Lute the Juncture well with Bladder; and ſet it in a gentle Heat of Digeſtion ſix Days, ſhaking it about every Day.

Then let it ſettle, and decant into a clean Veſſel, both which keep well ſtopt for Uſe.

It is an Excellent Laudanum, a certain Sudorifick, and a great Expeller of Wind.

Its *Doſe* is from ten, to thirty or fourty Drops.

Matthews *his Pill.*

TAke of the Extract of Opium, of Black Hellebore, of Liquoriſh, and the *Corrector*, or Sope made with Salt of Tartar and Oil of Turpentine, as before-mentioned, *ana* four Ounces. Let the Hellebore and Liquoriſh be made into Subtle Powder; beat and mix theſe four Ingredients very well; then with two or three Ounces of this Maſs, mix two Ounces of good *Engliſh* Saffron, cut in very ſmall pieces, and beat them well together,

ther, till the Saffron is perfectly mixed with the Mass, so that no part of it is discernable from the rest: Then beat and mix that as well with the rest of the Mass. If the Mass be too dry, you may mix with it some of the Oil which comes from the Sope, which it spues out when it stands by a long time; or in its stead so much Rectify'd Oil of Turpentine as is sufficient to make it into a Mass fit to form into Pills. Then put it into a wide-mouth'd Glass, or Gally-pot, ty'd over with a Bladder or Leather.

It is Diaphoretick, Anodine and Diuretick.

Its *Dose* is from two, to five or six Grains.

Dr. *Starkey*'s Pill.

TAke Extract of Opium four Ounces, Nutmegs and Mineral Bezoar. *ana* two Ounces; Saffron and *Virginia*-Snake-Root, *ana* one Ounce; beat the Nutmegs and Saffron together into a Paste; so that the Saffron cannot be discernably distinguish'd from the Nutmegs. Also let the Mineral Bez. and Snake-Root be in Impalpable Powder. Then mix all together, with half a Pound of the *Corrector*, half

half an Ounce of Oil of Saſſafras, and two Ounces of Tinct. of Antimony; let them all be well Incorporated, by beating in a Mortar: Then keep them in a Glaſs, or Gally-Pot, ty'd over with Bladder and Leather for Uſe.

This I had from the Ingenious Dr. *Starkey*'s own Mouth, in the Year 1665. a little before his Death, who then told me, He gave *Matthews* the former for a little Money; but this is it which he ſucceſsfully made uſe of himſelf.

It is both more Diaphoretick, and a greater Anodine than the former; and I have heard it affirm'd by ſeveral Gentlemen, who have made uſe of it in their Practice, to be the beſt Laudanum they ever met with.

Its *Doſe* is the ſame with the former.

Observations.

Extract of Opium. That the Extract of Opium may as well be made with Brandy, or Proof Spirit, as with Water and Spirit of Wine, there being Water enough in either of them to Dissolve that we call the Spirituous Part of Opium; and also Spirit enough to dissolve the more Terrestrious Resinous Part: But be careful in drying it into an Extract that you do not burn it.

Compound Extract of Opium. When you put the Extract of Opium to the Tincture of Saffron, Castor, and Nutmegs; stir them well together till the Extract and Tinctures be Incorporated; and likewise be careful to prevent burning the Extract.

Laud. Liq. Cydoniat. The Yest does often make the Medicine muddy, and therefore I substitute in its place two Ounces of Juniper-Berries, which renders the Laudanum more pleasing to the Eye, and takes off its griping Quality.

Laud. Liq. Tartarisat. Of late I have put in the Juniper-Berries with the Saffron, Cinnamon, Nutmegs, and Mace, and digested them three or four Days, then prest them through Flannel,

Flannel, decanted that Liquor, and when ſettled, put to the Tincture one Ounce, or ſix Drachms of the Extract of Opium; Incorporated them well, and Diſtil'd off eight Ounces of the Spirit.

The Canary-Wine will endure ſomething a ſtronger Heat of Digeſtion than Spirit of Wine, or Tincture of Tartar; becauſe there is not Spirit enough in the Wine to Extract the Reſinous Part of the Opium. If after three or four Days Digeſtion of the other Ingredients you preſs it out, let it ſettle, pour it off by gentle Inclination, and then put to it one Ounce, or ſix Drachms of the Extract of Opium, you will better perform the Operation. *Laud. Liq. Sydenham.*

If you add two Ounces of Juniper Berries to the Saffron, the Medicine will be a greater Carminative, and if inſtead of Crude Opium, you take the Extract, and proceed as in the former Obſervation, you will the better ſucceed. *Laud. Liq. cum Spir. Nit. Dulc.*

If you Diſtil the Oil of Turpentine, with which you make the Sope, from Aromatick Herbs and Seeds, *viz.* Lavender, Mint, Roſemary, Marjorum, Carraway-Seeds, and Juniper-Berries, the Laudanum will be made more grateful. *Starkeys & Matth. Pill.*

CHAP. XVI.

Of Eſſential Oils, and Fixed Salts.

ESſential Oils are ſuch as retain the Smell and Taſte of the Spices, Gums, Herbs, Flowers, Berries, Seeds and Woods, from which they are drawn, *viz.* Cinnamon, Cloves, Nutmegs, *&c.* Benjamin, Balſam *Peru*, Ammoniacum, Galbanum, Capivii, Turpentine, *&c.* Mint, Balm, Marjorum, Wormwood, Penny-royal, Roſemary, Sage, Camomel, *&c.* Anni-ſeeds, Coriander-ſeeds, Caraway-ſeeds, Cumin-ſeeds, Sweet Fennel-ſeeds, *&c.* Juniper-Berries, Bay-berries, *&c.* Rhodium, Saſſafras, *&c.*

The Fix'd Salts are Extracted out of the Aſhes of the Woods and Plants.

The manner of Diſtilling Eſſential Oils.

TAke what quantity of any Spice, Gum, Berry, Seed, Herb or Wood you pleaſe, ſuch as are proper to be bruiſed

bruiſed or powdered, let them be put ſo into a Copper-Still, and to them put eight or ten times their weight of common Water; Lute the Head to the Still, and its Refrigeratory or Worm, make Fire under it to make it Boil, and in a little time the Water and Oil will run into the Receiver, which we call a Spout Receiver, ſuch as the Figure at the beginning repreſents; when you apprehend that all the Oil is come off, hold a Spoon under the Noſe of the Worm, and if you perceive any Oil comes with the Water into the Spoon, continue the Fire longer, if no Oil appears in the Spoon, let out the Fire, and ſeparate the Water from the Oil.

Obſerve, Firſt, Few of theſe Oils are worth Diſtillation, except in great quantities, that is to ſay, ſeveral Still fulls.

Secondly, That you watch it at its firſt beginning to Diſtil, to prevent its boiling over; and if you think the little Stream runs too faſt through the Worm, open the Door of the Fire-hole, and that will a little allay its vigour; if it be not ſufficient, interpoſe a Fire-ſhovel between the Fire, and the bottom of the Alembick, ſo as to keep it running in a ſmall Thred, and after the firſt half Hour of its working, you may be more bold with the Fire.

Thirdly, That you leave Water enough in the Still to secure the Matter in it contained from burning.

Fourthly, That you return the Water you Distill'd off upon the fresh Matter in the Still, so long as it is the same Spice, Wood or Herb you drew the first Water from; for that Water being fill'd with some Oily Particles of the Vegetable from which you drew it, you will have by returning it, more Oil from the said quantity of Wood, Seeds, or Herbs, the Second Distillation than you had the First.

Fifthly, Also observe, That the Oils of Cinnamon, Cloves and Sassafras, being more Concentrated and Compact than the other, sink to the bottom of the Water, and all the rest of the Essential Oils swim upon the Surface of Water.

Sixthly, Observe, That the Oils of Anni-seed, Sweet Fennel-seed, and Roses, will coagulate; therefore you ought so to order your Matter towards the latter end of your Distillation, to keep the Worm warm to the very Nose of it, by which means the Coagulated Oil melts down into the Receiver.

The Fix'd Salts of Plants are made out of their Aſhes. For Example:

Take dry Wormwood, what quantity you pleaſe, burn it upon a clean Hearth; rake the Aſhes ſo long as any Fire appears amongſt them; put thoſe Aſhes into an unglaſed Pan, which ſet in a Calcining Furnace; make Fire about it till the Pan is red hot, where keep it (continually ſtirring the Aſhes) till they are perfectly Calcined into whitiſh gray Aſhes, without any blackneſs: Then put them into a clean Pan, and pour hot Water to them; when that Water is ſufficiently Impregnated with the Salt, Filter and Evaporate to dryneſs; and ſo continue the Extraction, Filteration and Evaporation, till the Aſhes are left inſipid.

CHAP.

CHAP. XVII.

Of TURPENTINE.

IT is of a Balsamick Consistance and Nature, and comes by Incision from several kinds of Trees, *viz.* the Turpentine Tree in the Island of *Chios*, from which the *Chios* Turpentine proceeds; also from the *Pine-Tree*, the *Larix* and *Firr*.

It is Diuretick, and given in *Gonorrhea's*, Ulcers of the Reins, Bladder and Matrix.

Its Essential, or Ætherial Spirituous Oil, is drawn in Water, in a large Copper Still, as other Essential Vegetable Oils are.

From the *Colophone* which remains in the Copper-Still, may be Distilled by Retort, its Yellow Oil, and Red Balsam, as followeth:

The Yellow Oil, and Balſam of Turpentine.

TAke the *Colophone* which remains in the Copper-Still, after the Spiritual Oil is Extracted, what quantity you pleaſe, break it in little pieces, and put it into a Retort not above half full; place it in a Sand Furnace; heat it gradually to the ſecond degree of Fire, in which ſome Oil will drop into the Receiver; augment that Degree a little, and it will cauſe all the Oil to Diſtil; then change the Receiver, and urge the Fire to the third Degree, which will cauſe yellow thick Drops to Diſtil, with ſome Fumes; when the Fumes decreaſe, augment the Fire to the Fourth Degree, which will drive over its Red Balſam; when the Receiver begins to cool, and the Fumes diſappear, let out the Fire.

By this Method you may Diſtil the Oil and Acid Spirits of Maſtick, Frankincenſe, *Tacamahacca*, Gum Elemi, Labdanum, and all other Gums of this Nature.

CHAP.

CHAP. XVIII.

Of BENJAMIN.

IT is a Reſinous Fragrant Gum, which Diſtils out of a large Tree, growing in *Samaria*, and the Countries adjacent; Its greateſt Conſumption is by the Perfumers: Its Phyſical Uſe is to reſiſt the Malignity of Humours. It is alſo Pectoral and Cephalick.

That which breaks Grey, and is full of white lucid Spots, is counted beſt.

The Tincture of Benjamin.

POwder four Ounces of Select *Benjamin*, put it in a Matras, and put to it Tartaris'd Spirit of Wine, one Pound; fit the Matras for Circulation; Lute the Joint, and ſet it in warm Sand three or four Days, now and then ſhaking it about; in that time it will acquire a fine Tincture, which Decant, and keep for Uſe.

Its chief Uſe is to ſmooth the Skin, and take away Spots out of the Face. One Drachm

Drachm of it being put into four Ounces of clean Water, turns it white; this is call'd *Virgins Milk*. It is alſo us'd in Aſthma's, and other Diſeaſes of the Lungs.

Its *Doſe* is from twenty, to ſixty or ſeventy Drops.

Flowers of Benjamin.

PUT into a Subliming-Pot (of which you have the Figure in the Cuts) two or three Ounces of *Benjamin* in groſs Powder, ſet on its Cover, without Luteing, and keep it in the Second Degree of Fire in Sand, or immediately over a very ſmall Fire of Charcole; the Flowers will preſently begin to riſe into the Cover, which once in an Hour, or Hour and a half, muſt be taken off, and wip'd out upon a clean Sheet of Paper with a Feather; you ought to have two Covers to one bottom, that you may clap on one as ſoon as the other is taken off. When you ſee the Flowers begin to riſe yellow, take the melted *Benjamin* out of the Pot, with a Spoon, and put into it more powdered *Benjamin*, as you did at firſt, and ſo proceed till you have as many of the Flowers as you deſire.

The Oil and Spirit of Benjamin.

TAke of the black melted *Benjamin*, (which you took out of the Pot after the Sublimation of the Flowers) one Pound; put it into a Retort, which place in a Sand Furnace; cover it well with Sand; Lute on its Receiver, and make Fire of the first Degree for one Hour; then increase to the Second, in which you will have some Oil and Spirit, with some discoloured Flowers; augment the Fire to the third Degree, and at last to the Fourth, till no more Fumes appear, and you will have a blackish Oil, with an Acid Spirit, and the neck of the Retort will be fill'd with the discolour'd Flowers, which you may take out, and put upon clean brown Paper to suck up the Oil. These Flowers (though not so beautiful) are as good for Use as the former; and though both the Oil, Spirit and Flowers have acquir'd (at present) an Empyreumatical Scent, in six or eight Months time their Fragrancy will return.

The Oil is a Balsam for Wounds. The Spirit is Diuretick.

Its *Dose* is from ten to fifty Drops, in any proper Vehicle.

After the same Method you may Distil the Oil, Spirit, and Volatile Salt of *Tolu* and *Peru*, *&c.*

Observations

Obſervations.

YOU may add to the four Ounces of *Benjamin*, one Ounce of Storax, and alſo one Drachm of the Balſam of *Peru*; they will not only render the Scent more grateful, but alſo add to the deepneſs of the Tincture. *Tincture of Benjamin.*

You muſt take care that the Fire is not too big, if it be, it forces up ſome of the Oil with the Flowers, and diſcolours them. *Flowers of Benjamin.*

If you have the quantity of two or three Ounces of the black Oil, you may put it into a Cucurbit, which is capable of holding a Gallon of Liquor, in which you may put two or three Quarts of Water to the Oil, and ſet it in a Sand Furnace, Luting on its Head and Receiver, and give it gradual Fire till the Water is ready to boil. In this Heat the Spirituous Part of the Oil will Diſtil with the Water, of a fine Amber Colour, and a Fragrant Scent. *Oil of Benjamin.*

It is a good Internal Medicine, a powerful Diuretick, and a Specifick againſt the Stone and Gravel in the Reins and Kidnies.

Its *Doſe* is from three to fifteen Drops, in a little refin'd Sugar. The Spirit may (before the Rectification) be ſeparated by Filtration.

CHAP.

CHAP. XIX.

Of CAMPHIRE.

IT is a Volatile Sulphureous Subſtance, which drops from a large Tree growing in the Iſland of *Borneo* in the *Eaſt-India's*. It is ſeparated from its Dirt by Sublimation, and is brought to us in a Tranſparent Friable Cake; The clear, white, and ſuch as is hard to quench, when ſet on Fire, is the beſt. It is counted a Volatile Alkali, ſaturated by Nature with its own Fatneſs.

It is Anti-Peſtilential, and Procreative, (though ſome have Aſſerted the contrary) good againſt Fits of the Mother, and a great Smoother and Beautifier of the Skin.

The Oil, or Diſſolution of Camphire.

TAke clear white Camphire, four Ounces, powder it groſly, and put it into a Matras; pour upon it eight Ounces of Spirit of Nitre; ſet it in a very gentle Heat of Digeſtion, often ſhaking it; and in two or three Hours time it will diſſolve into a clear Liquor ſwimming

ming above the Spirit of Nitre, which you may ſeparate as you do other Oils. Its Uſe is chiefly External.

If it be dropt into Roſe-water, and with it waſht from its Acrimony, it reaſſumes its Body, ſmooths and whitens the Skin.

Compound Oil of Camphir.

TAke of the aforeſaid Oil four Ounces, of the Rectify'd Oil of Amber, Juniper-Berries, Oranges and Lemons, *ana* three Ounces; put them into a Matras, and let them ſtand in Digeſtion till they are united, which will be in three or four Days: But if you will more ſtrictly Unite them, put into a large glaſs Body ſo much Water, as to fill it two Thirds; put to it the Compound Oil; ſet it in a Sand Furnace, with its Head and Receiver, give it Fire gradually till the Water ſimper and bubble; continue that Fire till all the Oil is Diſtill'd. If any of the Camphire remains coagulated, either in the Head or Receiver, return it, (with all that Diſtilled) into the Body again, and Diſtil as before: Repeat this Operation two or three times, and the Oils and Camphire will become inſeparable.

Obſervations.

Observations.

Oil of Cam. by Dissolut. IF you drop this Oil into Water, it reassumes its Body, not being Subtilized into an Essential Oil, but only dissolved by so much of the Nitrous Spirit, as it is capable of receiving.

Compound Oil of Cam. By repeated Distillations it will perfectly Unite with the other Oils, and become Essential.

A Compleat Courſe OF Chymiſtry.

PART III.

Of Animals and Inſects.

I Shall here, in this Third and Laſt Part, ſpeak only of thoſe Animals, and ſuch Parts of them, as we make uſe of in Chymiſtry, as *Sal Armoniack*, *Urine*, *Blood*, *Bones*, *Horns*, *Hoofs*, &c. Alſo, *Serpents*, *Vipers*, *Wood-Lice*, *Piſmires*, &c. And Firſt,

CHAP. I.

Of Sal Armoniack.

SAL Armoniack is brought from *Alexandria* in *Egypt*, *Venice*, *Antwerp*, *&c.* It is either *Natural* or *Artificial.* The Natural is found in very hot Countries, where the Earth has Imbibed the Urine of Animals; but of this very little is brought to us. The Artificial is made of Urine ten Pound, Sea Salt two Pound, and the Soot of Wood one Pound: These are boiled into a Mass, and Sublimed into such Cakes as come to us.

Purification of Sal Armoniack.

DIssolve what quantity you please in warm Water, Filter and Coagulate, or only Evaporate to a Pellicle, and set it to shoot in a cold place; either of them will render you a very white Salt.

Its

Its *Operation* is Sudorifick and Diuretick; and ſaid to be good in Malignant Fevers; alſo in Quartane Agues; Provokes Womens Terms, Reſiſts Putrefaction, and therefore given in the time of the Plague.

Its *Doſe* is from twenty Grains to one Drachm and half.

Sublimation of Sal Armoniack.

PUT what quantity of Sal Armoniack (in groſs Powder) you pleaſe into a Retort, or Matras, with its Head; place it in a Sand Furnace; fit a Receiver to it, and give gradual Fire to the Third Degree, in which you may keep it till all is Sublimed, which you will perceive by the Sublimate riſing clear above the Sand. Some Sublime it with common Salt, and others with Burnt Allum, but they ſerve for no other Uſe than taking up room in the Glaſs, which muſt not be quite half full. Sal Armoniack being Sublimed with common Salt, is that which Mr. *Lemery* calls Flowers of Sal Armoniack.

Its Uſe the ſame of the Purify'd.

Spirit of Sal Armoniack, with Salt of Tartar.

TAke of Sal Armoniack, and Salt of Tartar, *ana* one Pound; Powder and mix them well, and put them preſently into a Cucurbit (or rather into a Retort, becauſe there is but one Joint to cloſe) ſprinkle it with twelve Ounces of Flegm of Wine, or eight Ounces of Spring or Rain-water; place it in Sand and Luting well its Receiver with Bladder, give it Fire of the Firſt Degree one Hour and an half; increaſe it to the Second, and keep it ſo two Hours; go on to the Third, and keep it there till you ſee the Salt begin to diſſolve in the Neck of the Retort, or Head of the Cucurbit: Let all cool, and put the Spirit into a Vial by it ſelf, and the Salt in another by it ſelf.

Its *Operation* is Sudorifick and Diuretick.

It is given in Epilepſies, Palſies, Small-Pox, Malignant Fevers and Plague.

Its *Doſe* is from ten Drops to one Drachm.

Spirit

Spirit of Sal Armoniack, with Quick Lime.

TAke of Sal Armoniack, in fine Powder, one Pound, of *Calx Vive*, which has lain in the Air till it is broken into fine Powder, three Pound; mix them well, and put them preſently into a Retort, to which put two Pound of River, Rain, or Spring-water; ſhake it, to mix the Powder and Water, and place it in a Sand Furnace, Lute well the Juncture of the Receiver, and give Fire of the Firſt Degree one Hour and a half; augment it to the Second, where you may keep it till about twelve Ounces of Spirit be Diſtilled. Then take it off, and keep it in a Vial well ſtopt for Uſe.

You may Lute on the Receiver again, and draw off three or four Ounces more, which will be pretty ſtrong.

Its *Operation*, *Uſe*, and *Doſe*, the ſame with the other.

It is accounted the better Spirit to ſmell to, being more Penetrating; but by reaſon of its heat, it is not thought ſo good for Internal Uſe.

The Spirit and Volatile Salt of Sal Armoniack, which Monſ. Lemery *calls, Sweet Spirit of Sal Armoniack.*

TAke of Sal Armoniack, and Salt of Tartar, *ana* one Pound, make them into fine Powder, and mix them; put them into a Cucurbit, fit a Helm to it, with a wide Beak, and likewiſe a Receiver to the Helm; Lute them well with Bladder dipt in the white of an Egg, well beaten with a little Water; place them in a Sand Furnace, and give Fire of the Firſt Degree two Hours; the Salt will riſe into the Head, and ſome Spirit drop into the Receiver: Raiſe the Fire to the Second Degree, and keep it ſo four or five Hours, in which time all the Volatile Salt will be Sublimed: Let all cool, and take off the Head and Receiver, put the Spirit into a Vial well ſtopt, and the Salt in another alſo well ſtopt. If you would have the Salt converted into Spirit, it is done by three or four Rectifications.

It is of the ſame Uſe with the other Spirits of Sal Armoniack, and may be given in a greater Doſe.

The Acid Spirit of Sal Armoniack.

TAke the *Caput Mortuum* of the former Spirits one Part, and of Fullers Earth three Parts, both beaten into fine Powder, and well mixt; put them in an Earthen Long-Neck, and place it in a Reverberatory; Fit and Lute on the Receiver; make Fire of the Firſt Degree for one Hour, increaſe it to the Second, and keep it there three Hours longer, and ſo to the Third and Fourth, till the Receiver comes clear without Fumes: Then let all cool, take off the Receiver, and put up the Spirit for Uſe.

It is of the ſame Nature and Uſe as the Spirit of Common Salt, *&c.*

The Diuretick Salt.

TAke the grey Salt which remains in the Veſſel after Diſtillation, of either of the Spirits made with Sal Armoniack and Tartar, Diſſolve, Filter and Evaporate, either to a Pellicle, and ſo to ſhoot into Cryſtals, or to a dry bottom.

Its *Operation* is Diuretick and Diaphoretick. It works by Urine very powerfully, from which it takes its Name.

It is given in the Stone and Gravel, alſo ſucceſsfully in intermitting Fevers.

Its *Doſe* is from ten Grains to one Drachm, in any proper Vehicle.

Sal Volatile Oleoſum.

TAke of Sal Armoniack and Salt of Tartar, *ana* half a Pound, powder them apart, and mix them; put the mixture into a Retort; put alſo into the Retort half an Oun. of *Marum Syriacum*, and of Tartaris'd Spirit of Wine one Pound and a half, Impregnated with theſe Eſſential Oils, *viz.* Cloves half a Drachm, Cinnamon one Scruple, Nutmegs two Scruples, of Marjorum, Lemons and Oranges, *ana* one Drachm; put to them of clean Water two Pound, and ſet all in a Sand Furnace; Lute on its Receiver, and give Fire of the firſt Degree one Hour and a half; increaſe to the Second, in which continue it five or ſix Hours, or until you have in the Receiver, about a Pint and a half of Spirit and Salt,

You

You may Aromatize it with Eſſence of Ambergreece, to your pleaſure.

This Medicine is differently compos'd, as the Operator pleaſes.

Its *Operation* is Diaphoretick and Diuretick.

It is given in all Pains and Diſeaſes of the Head: It is good in Palſies, Lethargies, Scurvy, Peſtilential Fevers, Suffocation of the Womb, and in all Hyſterick Caſes.

Its *Doſe* is from ten, to ſixty Drops.

The hidden Spirit of Sal Armoniack.

TAke of pure Spring-water 5 Pound, Pot-aſhes two Pound, Sal Armoniack one Pound; put them into an uncut Body, and ſtop it with a Bolt Head, firmly Luted; let them ſtand three or four Days in a gentle Heat of Sand to Digeſt, ſhaking them two or three times every Day. Then let the Mixture ſettle; Filter, and keep the Water for uſe.

'Tis ſaid to open Obſtructions of the Liver and Spleen, Provoke the Terms, Sweeten the Blood, and to give Eaſe in the Gout.

Its *Doſe* is from fourty, to ſixty, or one hundred Drops.

The double Menstruum of Sal Armoniack.

REduce Sal Armoniack and *Calx Vive*, into fine Powder, *q. v.* mix them in equal quantities, and let them run, *per deliquium*, in a moist place.

It is of the same Use with the foregoing Spirit.

Its *Dose* is from ten Drops to one Drachm.

Note, That it readily Dissolves *Mercury Sublimate* into a clear Water, which may be of Use to the Curious.

Distillation of Urine.

TAke Urine of Sound Young Men, newly made, as much as you please, put it into an Iron Kettle, and Evaporate it to the Consumption of one half, in a gentle Heat; put the Remainder into a Stone Bottle; stop it well, and set it by to Ferment for about two Months. Open the Bottle, and if you find it smell quick and strong, put it into a large glass Retort;

tort; Lute on a Receiver, and give Fire of the Firſt Degree for an Hour; then increaſe to the Second, which will raiſe its Salt and Spirit; continue that Degree till you find the Salt begin to diſſolve, and let all cool. Then take off the Receiver, and put all you find there into a Cucurbit; ſet it in Sand; Lute on its Head and Receiver, and give a gentle Heat at firſt, and the Salt, and ſome part of the Flegm, which we call Spirit, will riſe. Continue the Fire till you ſee the Head well lin'd with Salt, which when you perceive to decreaſe, let all cool, and put what you find in the Receiver into a Vial well ſtopt.

It is Diaphoretick and Diuretick, and given in Intermitting and Malignant Fevers.

Its *Doſe* is from five to fifty Drops.

But however, as to the Evaporation, obſerve to do it by a gentle Heat, leſt ſome of its Volatile Salt, by too great an Agitation, ſhould fly before its Fermentation. The uſe of this Fermentation is to ſeparate the Flegm, which would take up too much room to no purpoſe.

Secondly, If you find not the Urine ſufficiently Fermented, which you may know

know by its quick Scent, ſtop it again, and let it ſtand longer.

Thirdly, If you deſire the Salt and Spirit apart after the Rectification, then pour off the Spirit into a Vial, and tye a double Paper over the Mouth of the Receiver; ſet it down-wards, and let it drain till the Salt is dry: Then ſcrape it off from the ſides with a crooked Hoop-ſtick, and put it into a Vial well ſtopt.

If you deſire yet a greater quantity of the Salt, put both it and the Spirit together, into a long Body; Lute on the Head and Receiver, and let it ſtand in a digeſting Heat of Sand, that the Salt may gently Sublime.

I have made the Spirit of Urine without Fermentation, by Evaporating to the Conſiſtence of a Syrup, and giving it gradual Fire to the Third and Fourth Degree. In this Operation the Flegm comes firſt, and then ſome Volatile Salt; afterwards more Volatile Salt will appear in white Fumes, with the Spirit, and a little ſtinking Oil, which muſt be ſeparated from the Salt and Spirit before Rectification. After one Rectification you may ſeparate the Volatile Salt and Spirit, as in the former, but I do not eſteem it of equal Goodneſs with the

the Fermented Spirit, becauſe all the Salt of Urine is Volatized by the Fermentation. In the *Caput Mortuum*, as ſome call it, you will find a ſtrong Lixivious Salt; and if the Volatizing Fix'd, or Lixivious Salts deſerve that Encomium the moſt Celebrated Authors give of them, the Salt of Fermented Urine muſt be the beſt Medicine; and indeed there is a perceptible difference betwixt them, the Fermented Spirit and Salt being more Pleaſant and Penetrating, both in Smell and Taſte, than the Unfermented.

Obſervations.

Observations.

Purificat. Sal Armo. THis Operation separates the accidental Dirt from the Salt, and renders it fit for Sublimation. If without this Separation you should Sublime it, the foul and dirty Sulphur would rise with it, and render it unfit for some curious Operations.

Spirit Sal Arm. cum Sal. Tart. Instead of a Pound of Salt of Tartar, you may take one Pound and a half of Pot-ashes, made clean by Dissolution and Filtration, and Evaporate it to dryness; it is of the same Use with Salt of Tartar.

Spirit Sal Arm. cum Cal. Viv. If the Lime be not a little quencht before 'tis mixt with the Sal Armoniack, the Spirit will fly with such violence, that it will be very troublesome to put it into the Vessel, and the most Essential Part will be lost.

Spirit Sal Arm. Dul. If you put half a Pound of Tartaris'd Spirit of Wine to the Salts, before Distillation, you will have a greater quantity of Salt, then can be produced without it.

Spir. Acid. Sal. Arm. This is the Spirit of common Salt which was before in the Composition of Sal Armoniack, but kept down by the Salt

Salt of Tartar, and therefore it requires as strong a Fire to Distil, as that of common Salt.

If after the Humidity is Evaporated, you make too strong a Fire under it, you will burn and discolour it. *Sal. Diure.*

If you make it with the Spices and Herbs, instead of the Essential Oils, it will acquire a little Tincture, which by some is dislik'd, but I think it not the worse. *Sal. Volat. Oleosum.*

You may Dissolve and Filter the Salts apart, and then put the Dissolutions together, in a Glass big enough for the Spirit to Circulate. *Spirit Sal Ar. Occult.*

Let the Lime be two or three Days expos'd to the Air, before you mix it with the Sal Armoniack, otherways a great part of the Volatile Spirit will evaporate, which ought to be United with the Salt. *Menstru. Duplicat.*

The Diſtillation of Harts-Horn.

TAke that which we call the Velvet-Head, in the Spring-time, while it is ſoft, cut it in little pieces, and put them into a Cucurbit; Lute on its Head and Receiver; place it in *Bal. Mar.* and Diſtil a Water from it.

Its accounted good to help forward the Births of Women, and to reſiſt Malignant Humours in Fevers.

Its *Doſe* is from two, to four or five Ounces.

The Spirit, Volatile Salt, and Oil of Harts-Horn.

TAke that which remain'd in the Cucurbit after the fore-going Diſtillation, or pieces of ſolid Harts-Horn, as much as you pleaſe; put them into an Earthen Retort, or Iron Pot, either of which may be fill'd two Thirds: If it be an Iron Pot, you muſt fit to it a Copper-Head, with its Receiver; if a Retort, only a Receiver: Place them on a naked

ked Fire, which increase gradually, so as to keep some Fumes in the Receiver, but not to force them so violently, as to blow off, or break it; at last give the Fourth Degree, in which keep it till no Fumes appear: Then let all cool; take off the Receiver, and put the Oil and Spirit into a Separating Glass; wash out the Salt which remains behind with clean Water, and put it to the Oil and Spirit. Then let it stand twenty four Hours to separate, and draw out the Spirit; then put them into a Cucurbit, or long boll'd Retort, in a gentle Heat of Sand to Rectifie; the Salt (and some part of the Liquor, commonly call'd Spirit) will first ascend; the Salt will increase till the Neck of the Retort and Receiver is well charged. When the Salt begins to dissolve, take off the Receiver, and separate the Spirit from the Salt, as before directed in that of Urine. If after Rectification any Oil appears upon the Spirit, separate it by a Glass, and keep the Spirit in a Vial well stopt.

It is Diaphoretick and Diuretick.

Its *Dose* is from ten Drops to fourty or fifty, in any convenient Vehicle.

After the same manner we make the Spirit, Oil, and Salt of *Human Skulls* and *Bones*, *Vipers* or *Serpents*, *Ivory*, *Hoofs*, *Hair*, *&c.*

The Aromatick Spirit of Harts-Horn.

TAke the Spirit, Oil and Salt of Harts-Horn, after the firſt Diſtillation, and Rectifie them; put them ſo Rectify'd into a clean long boll'd Retort; to each Pound of which put two Ounces of *Sal. Vol. Oleoſ.* and four Ounc. of *Spir. Nit. Dulc.* ſhake them well together, and ſet them in a very gentle Heat of Sand; Lute on a Receiver, and continue the Fire (not exceeding the ſecond Degree) till all be Diſtill'd: In the Receiver you will have a Spirit which has quitted its Empyreum, and receiv'd a penetrating, but a very pleaſant Scent.

It is a powerful Diuretick and Diaphoretick; it wonderfully expels Wind from any part of the Body, and by many Experiments found to be endu'd with all the Vertues attributed to *Godard*'s Drops.

Its *Doſe* is from fifty, to ſixty or ſeventy Drops, in any proper Vehicle.

Obſervations

Observations.

IF you Distil any Animal Spirit in an Iron Pot, with a Copper-Head, that Head ought to be kept only for such use.

If you would have that we call Spirit and Salt absolutely free from the Oil, to one Pound of the Spirit (after the second Rectification) you may put of Bones, or Horns, Calcin'd to whiteness four Ounces, and Distil in a gentle Heat of Sand.

If you desire all the Salt in a dry form separated from the Flegm, put the aforesaid Mixture in a Matras, or long Body, with a Head and Receiver fitted to them, and in a very gentle Heat of Sand, the Salt will be Elevated into the Head and Neck of the Body or Matras: For know, that the Volatile Salt of Animals are properly their Spirits, and what we call Spirits, is no other than part of the Volatile Salt dissolv'd in the Flegm, which nevertheless has the same Vertue of the True Spirit, or Volatile Salt, but given in a greater Dose.

If you Rectifie the Aromatick Spirit once more, its pleasant Smell will be augmented. *Spir. C. C. Arom.*

To Elixirate, or make Eſſential Animal Vol. Salts.

TAke half a Pound of Volatile Animal Salt; put half a Pound of Tartaris'd Spirit of Wine to it, and it will Coagulate, and is that which *Helmont* calls his *Offa Alba*; Put that Salt into a Matras, pouring upon it pure and ſtrong Diſtill'd Vinegar, by little and little at a time, till the Ebullition ceaſes; Then ſet it in a gentle Heat of Sand, with its Head and Receiver well Luted; there will firſt come a ſubtle Liquor, dropping from the Noſe of the Alembick; after that will ſublime into the Head, a moſt glorious Salt, white as Snow, in figure like large Flowers of Benjamin, of a quick, pleaſant, penetrating Scent, and a very agreeable Taſte.

In this Operation you muſt have a watchful Eye; as ſoon as you perceive the Cryſtals to fall or relent in the Head, draw the Cucurbit out of the Sand, and take off the Head and Receiver; put the Spirit and Salt apart, into Vials, and carefully ſtop them: In the Cucurbit you will find a very ſtinking Flegm, which may be thrown away.

This is that Animal Salt I Unite with the

the Salt of Tartar, that ſo readily diſſolves in Tartaris'd Spirit of Wine, before-mentioned, with which I Extract the Anodine Sulphur of Metals, and of them Compoſe that Surprizing Anti-Rheumatick Tincture,

Which Rectifies loſt and deprav'd Appetites, reſtoring the Stomack to its true Tone, and preparing the Aliment for further Digeſtion, Cleanſing the Blood of all the Corroſive Salts which occaſion thoſe Acute Pains in Rhumatiſms, Gouts and Scurvies, *&c.*

It is a powerful Diuretick, and of Excellent Uſe in the Stone and Gravel, either in the Kidnies or Bladder, by diſſolving and waſhing off that Petrifying Matter which is the cauſe of both.

By its gentle Diaphoretick and Anodine Quality, it quiets the *Archæus*, and allays the irregular Ferment in the Blood, by which means it becomes an Excellent Medicine in all Fevers; and by its Carminative and Sweetning Quality, gives preſent Eaſe in the Cholick, and all Gripings in the Bowels and Stomach.

In its Taſt and Operation tis moſt pleaſant, and mixes with all Liquors without Ebullition, Coagulation, or Precipitation.

cipitation. So much for the Anti-Rheumatical Tincture.

This Essential Animal Salt is Diaphoretick and Diuretick. Its *Dose* is from five Grains to one Scruple.

The *Dose* of the Anti-Rheumatick Tincture is from fifty to one hundred, or one hundred and twenty Drops, in any Liquor which is proper. My common Vehicle is Spring-water.

CHAP.

CHAP: II.

Of VIPERS.

THE Viper is one of the Reptiles, but whether Animal or Insect I dispute not: The Creature is well known, and has a Skin scaly, and withal so very compact, that it permits little or no Transpiration of Spirits, which is the reason why it is able to live several Months without any other Nourishment than that of the Air.

As to the Story of *Pliny* about their Generation, that the Male puts his Head into the Mouth of the Female, which she bites off; that the young Vipers pierce the Womb and Sides of their Dam, and by that means revenge the Death of their Sire. Of their particular hatred to the Ash-Tree, that they will rather run into the Fire then come near it, and the like, I reject them as Fabulous.

Authors are of different Opinions about the manner of emitting their Poison; some Asserting it proceeds from the yellow Juice which often appears upon

the ſurface of the Wound; and others from the Rage or Exaſperation of the Animal. But my deſign being only to give ſuch Antidotes and Medicines as are produc'd from them by Chymical Preparation, I omit all Diſputes as Foreign to my purpoſe.

The Diſtillation of Vipers.

TAke what number of Vipers you pleaſe, open and cleanſe them from all Worms and Excrements, and the Females from their Eggs, which muſt be thrown away: Take out their Hearts and Livers; dry them in the ſhade, ſeparately from the Bodies, and when they are dry, cut the Bodies into ſmall pieces, and fill a coated Retort three quarters full; place it in a Reverberatory fit for the Retort; Lute to it, its Receiver, which muſt be capacious; cover the Furnace with its Dome, and make a gentle Fire under it for two Hours, in which time the greateſt part of the Flegm will come off; then increaſe the Fire to the ſecond Degree for two Hours more, which will raiſe its Spirit and Volatile Salt; increaſe it ſtill to the Third, which will fill the Recipient with Clouds; keep up that Degree

Degree till the Clouds ſeem to leſſen in the Receiver; continue the increaſe of the Fire ſtill, to the fourth Degree, and keep it there till all be come over, and the Receiver grows cool; then ceaſe the Fire, and you will find the Flegm, Spirit, Salt and Oil, which muſt be Rectify'd as followeth.

Rectification of the Salt of Vipers.

PUT all that you find in the Receiver in a Long-bodied, un-cut Cucurbit; If more Salt adheres to the Receiver than the Liquid which Diſtill'd from the Vipers will diſſolve, put in a little Water, and rinſe all the Salt out into the Body; place it in *Balneo*, or a gentle Heat of Sand or Aſhes; Lute on the Head with a Bladder daub'd with ſtiff Starch, and dipt in the Glear of an Egg. You may alſo Lute on a ſmall Receiver to the Beak of the Alembick, and the Salt will Sublime into the Head, or upper part of the Body, diſtinct from the Flegm, and groſſer part of the Oil, which muſt be kept in a clean Vial, carefully and exactly ſtopt for Uſe.

To

To this Salt many Vertues are attributed; as that it gives Relief even to those Diseases which are most Refractory and Difficult to cure; as Apoplexies, Lethargies, Convulsions, Palsies, and all other Diseases believed to have their Source in the Brain: Likewise in Distempers of the Breast; as difficulty of Breathing, Palpitation of the Heart, Pleuresies, Soundings, *&c.* and particularly it opens the Obstructions of the Liver, Spleen, Misentery, *&c.* It dissipates all inward Imposthumes, and dislodgeth secret and unknown Pains, which have their Origine in the Spirits. It helps Digestion, and purifies the whole Mass of Blood, resolves and prevents Coagulations in all parts of the Body. 'Tis an excellent Remedy against all intermitting Fevers, particularly Quartanes. It works powerfully in the Distempers of the Matrix, and is an Enemy to all the Vices of the Skin, even to the Leprosie it self. But above all, a most certain Specifick against the Bitings of all Venemous Creatures. It is also a great Antidote against the Plague, and all Contagious and Epidemical Diseases, as the Measles, Small-Pox, *&c.*

Its

Its *Doſe* is from ten Grains to two Scruples, in any proper Vehicle.

This Excellent Salt is alſo another Ingredient in the Anti-Rheumatick Tincture.

A Sudorifick Water of Vipers.

TAke what number of Living Vipers you pleaſe; put them into a ſtrong Earthen Body, tye a Hair-Cloth over its Mouth, ſuch as Coarſe Hair-Sieves are made of; fit and faſten a Head well to it, then place it in a *Balneo*, which gradually make to boil; this will Elevate a Water, which you will ſee drop into the Receiver; when the Drops ceaſe to fall, let it cool, and take out the Water.

Its *Operation* is Diaphoretick, and 'tis ſucceſsfully Exhibited in many Caſes where the Salt is proper.

Its *Doſe* is from twenty, to ſeventy or eighty Drops, in any proper Vehicle.

The Eſſence of Vipers.

TAke of dry'd Vipers what number you pleaſe, cut them in ſmall pieces, and put them into a Cucurbit, place it conveniently, and pour to it (by a little at a time) ſo much Spirit of Nitre as will diſſolve them; commonly twelve Ounces of Spirit of Nitre will diſſolve four Ounces of Vipers. When all the Spirit is put upon them, let them ſtand five or ſix Hours, and there will be a black Scum upon the Surface of the Diſſolution, which muſt be taken off with a glaſs Spoon, or in defect of that, a clean Tobacco-Pipe. You will likewiſe find a little white Fœces in the bottom, which muſt alſo be Separated from the clear Diſſolution; Pour the clear Liquor into a Retort, and by an Ounce or two at a time, put to it three times its weight of Tartaris'd Spirit of Wine, ſhaking them often about, as you mix them; place the Retort in a Bath of Aſhes, and with a gentle Fire diſtil off the Spirit of Wine, which will be an excellent Dulcify'd Spirit of Nitre: To the black Matter remaining in the bottom of the Retort, put the ſame quantity of new Spirit of Wine Tartaris'd, and Diſtil it off, as you did the other; Put on again the ſame quantity

tity as before, and Distil in the same manner; and repeat this so often with new Spirit of Wine, till it has neither any Nitrous Smell, nor Acid Taste; keep that which remains in the Retort, to unite with the Volatile Salt, and Rectify'd Oil of Vipers, as followeth.

The Rectification of the Oil of Vipers.

PUT the Oil and Flegm from which the Salt of Vipers was Sublimed, into a Cucurbit; let the Cucurbit be capable of holding two Gallons; pour to them one Gallon of clean Water, set it in a Sand Furnace; fit to it its Head and Receiver; give it a gradual Fire, till the Matter within the Body bubble; continue the Fire so, till holding a Spoon under the Beak of the Head, you perceive very little or no Oil swim upon the Water, which drops into the Spoon.

Then let all cool, and you will have Water, with the Ætherial Oil of Vipers, in the Receiver.

The Union of the Volatile Salt, Ætherial Oil, and the moſt Subtle Particles of the Viper into an Eſſence.

PUT to four Ounces of the Diſſolv'd Body of the Vipers left in the Retort, one Ounce of *Tinctura Regalis*, before-mentioned in the Chapter of Antimony, by a Drachm at a time; then to two Ounces of the Salt, and half an Oun. of the Ætherial Oil, put one Pound of the ſame *Tinctura Regalis*; put them in a Matras, which make a Circulatory, and let them ſtand ten Days in the Sun, or an equivalent Heat, ſhaking them every Day: when you ſee the Tincture has Imbib'd all the Salt and Oil, take it out, and put it to the Diſſolution of the Vipers aforeſaid; and when by ſtrong agitation you have looſned the Diſſolution from the Retort, put it all into a Matras, and let it Circulate in a very gentle Heat ten Days, ſhaking it every Day; In this time all the ſeveral Subſtances will be united into an Eſſence, which pour off from the Fœces into a clean Vial, and keep carefully ſtopt for Uſe.

This

This Essence is endued with all the Vertues of the Salt of Vipers, and if any Animal Medicine exceeds the Salt, it is this.

Its *Dose* is from twenty to one hundred Drops, in any appropriated Liquor.

Observations.

Observations.

Distillat. of Vipers. SOme take only the Bodies, pulling off the Skin, and cutting off the Heads and Tails, which they put away; also they put away their Heart and Liver; but all these yield as much Salt, proportionable to their weight, as the Bodies do: And you may as well perform this Operation in a good Sand Furnace, and uncoated Retort, as you can in a Reverberatory.

Rectificat. of the Salt. If you desire it more nicely Separated from all the Oily Particles which it carries with it in the First Rectification. Mix three parts of clean, and very dry Chalk, in fine Powder, with one part of Rectify'd Salt of Vipers; put into a Matras, or uncut Cucurbit, with its Head and Receiver well Luted, and with a gentle Fire Sublime the Salt, and it will leave all its Oily Particles Absorb'd in the Chalk.

Sudorifick Water of Vipers. The Hair-Cloth is fastned over the Mouth of the Cucurbit, to keep the Vipers from jumping up into the Head, when they begin to be heated, by which means they may break the Head, and get out, whose Biting then would be extremely pernicious, by reason of their iritation by the Heat of the Fire. When

When you put the Spirit of Nitre to the Vipers, place the Vessel where the Fumes may ascend without offending you. Also be careful not to put above an Onn. or two at once of the Spirit of Wine to that of Nitre, wherein the Vipers are dissolved, lest the Ebullition shou'd be so strong, as to fly out of the Vessel with violence. The repeated Distillations with new Tartaris'd Spirit of Wine, are to elevate as much of the Spirit of Nitre as is possible, and to hinder its fixing the Salt of Vipers. *Essence of Vipers.*

One Gallon of Water will be sufficient to rectifie four Ounces of the black Oil in, and generally by that time you have Distill'd two Quarts of Water, you will have all the Ætherial Oil come over. *Rectificat. of the Oil.*

The Ounce of *Tinctura Regalis* is put to the dissolv'd Vipers, to satiate (in part) that Acidity still remaining in them, which otherwise might too much fix the Salt of Vipers, and reduce it to the Nature of common Sal Armoniack, which being again mixt with fix'd Alkalies, may be Sublimed into an Animal Urinous Salt, as it was before. *Union of the Oil, Salts, &c.*

You may likewise Dulcifie the Dissolution, by putting to it (a little at a time) so much pure fix'd Nitre as will

satiate its Acidity: then let it stand in a cold place, and it will shoot into a cumbustible Salt Peter again, and the Dissolution will thereby be freed from the Corrosive Spirit of Nitre, which would have changed the Volatile Salt into that which some call the Secret Sal Armoniack.

N. B. That whatever Animal, Vegetable, or Mineral, is dissolved in the Spirit of Nitre, it will be made to Precipitate with the fix'd Salt; and on the contrary, whatever is dissolv'd in the *Ole. Nitri*, *per deliquium*, or by its fix'd Salt, will be separated by the Spirit; and this (if carefully Elaborated) may be done without prejudice to the Matter dissolved, and to the augmentation of their Vertues, by digesting and ripening their undigested Crudities.

CHAP.

CHAP. III.

Of HONEY.

IT is the Juice of Heavenly Dew, which falls upon Flowers and Herbs, and is gathered by that Industrious Insect the Bee, and in them further digested. The best is of a bright Yellow, having a pleasant Scent, and an equal Consistence in every part.

It Nourisheth, Cleanses and Opens. It is Pectoral and Diuretick, cures Coughs, and resists Putrefaction.

Tincture of Honey.

TAke one Pound of pure Virgin Honey, despume it in a clean Earthen Pan, and put to it three Ounces of pure Salt of Tartar finely pulveriz'd; stir them well together, and an Ebullition will arise; stay till it is over, and take off the Scum, and put the Mixture into a Cucurbit uncut, and pour upon it one Pound and an half of Tartariz'd Spirit of Wine; close the Mouth, and set it in the Heat of Digestion fourty eight Hours,

agitate the Matter three or four times a Day, and in that time the Spirit of Wine will have charged it self with the purest part of the Honey. Decant it from the Fœces into a new Cucurbit; Lute on an Head and Receiver, and draw off one half of the Spirit of Wine in a gentle Heat. That which remains will be a sweet thick Tincture, being an excellent Pectoral Medicine.

Its *Dose* is from fourty Drops to two Drachms.

Spirit of Honey.

MIX one Pound of Honey with three Pound of clean Sand, and put it into a Retort in a Sand Furnace; make a Fire of the first Degree for two Hours; Increase it to the Second for two Hours more, and so go on to the Third, where let it remain till no more Fumes or Drops will fall. You will find an Empyreumatical Spirit and Oil; put them both into a Cucurbit, and with a Fire of the First Degree draw off the insipid Water, and by the Second you will raise the Spirit.

It is an Acid Spirit which dissolves Pearl and Coral; and some use it to procure, or make Hair to grow.

Sweet

Sweet Honey Water.

TAke good *French* Brandy one Gallon, of the beſt Virgin Honey, and Coriander-ſeeds, *ana* one Pound, Cloves one Ounce and an half, Nutmegs one Ounce, Benjamin and Storax, *ana* one Ounce, Benilloes, number four, the thin Rind of three large Lemons. Bruiſe the Cloves, Nutmegs, Coriander-ſeeds and Benjamin, cut the Benilloes in ſmall pieces; put all into a Cucurbit, and pour the Brandy to them, and after they have digeſted fourty eight Hours, Diſtil off the Spirit in *Balneo Mariæ*.

To one Gallon of this Water add of Damask-Roſe, and Orange-flower-water, *ana* one Pound and an half, of *China*, Musk, and Amber-greeſe, *ana* five Grains. Firſt grind well the Musk and Amber-greeſe with ſome of the Water, and afterwards put all together in a large Matras; ſhake them well, and let them Circulate three Days and Nights in a gentle Heat; then let all cool, Filter, and keep the Water in a Vial well ſtopt for Uſe.

This Water I often made for King *James*: It is an Anti-paralitick, ſmooths

the Skin, and gives one of the moſt agreeable Scents that can be ſmelt. Fourty or fifty Drops put into a Pint of clean Water, are enough to waſh the Hands or Face with; and the ſame proportion to Punch, or any Cordial-water, gives a moſt pleaſant Flavour.

Oil of Wax, with its Spirit and Butter.

PUT three Pound of clean warm Sand into a Pan, ſlice into it one Pound of Bees-wax, in ſmall pieces, ſtir it about that the Wax may melt, and mix equally with the Sand; when 'tis quite cold, put it into a Retort, and place it in a Sand Furnace; make Fire of the firſt Degree one Hour; increaſe it to the Second, and keep it ſo two Hours, and after in the Third for three Hours, in which time the Oil and Spirit, with ſome of the Butter, will be in the Receiver, and the reſt of the Butter will ſtick in the Neck of the Retort; you may ſeparate and keep them apart.

Their *Operation* is Diuretick.

The *Doſe* of the Spirit is from ten Drops to fourty or fifty, in any appropriate

priate Liquor. The *Doſe* of the Oil is from five to twenty five Drops, mixt with Sugar, to make it the better Incorporate with Liquor. The Butter is the ſame. The Butter and Oil are alſo outwardly apply'd, and are a good Diſſolvent for Tumours.

Obſervations.

LET the Earthen Veſſel you mix the Honey and Salt of Tartar in, be Capacious enough to contain ſix or eight times the quantity you put into it, otherwiſe the Ebullition will be ſo ſtrong, that it will cauſe it to boil over. *Tincture of Honey.*

The Sand is mixt with the Honey, to keep it from boiling over, notwithſtanding which, it will ſwell and bubble, and therefore you ought not to fill the Retort above half full. In its Rectification, fit a Receiver, without Luting, and as ſoon as you Taſte any Acidity, change the Receiver, Lute it, and draw off the Spirit in an Heat not exceeding the third Degree; and if you add a Twelfth, or Sixteenth Part of Spirit of Nitre Dulcified, it will abate its unpleaſant Scent. *Spirit of Honey.*

Sweet Hon. Water. The Honey is added to cause a kind of Fermentation, by which it more powerfully opens the Aromaticks, which would not all otherwise ascend in the gentle Heat of *Balneo.*

You may mix the Wax with three times its weight of quick Lime, especially if you rather desire the Oil than the Butter; for the igneous Particles of the Lime mixing with it, rarifies it more than any other Bole; and if you desire to convert all the Butter into Oil, one or two Rectifications from quick Lime will produce it, and make it more penetrating then *Ol. Ceræ*, made any other way.

CHAP.

CHAP. IV.

Of Sows, or Hog-Lice.

THey breed in Cellars and moiſt places, under Stones, old Casks, and Logs of Wood; being touch'd, they gather themſelves up like round Beads; they are ſaid to Digeſt, Extenuate, Open, Cleanſe, and Reſolve Tartarous Mucilage; are good in the Jaundice, Cholick, Stone, and Difficulty of Urine.

The Spirit, Volatile Salt, and Oil of Hog-Lice.

PUT what quantity of *Millipedes* you pleaſe into a long bodied Retort, ſo that it be not above half full; place it in a Sand-Furnace; Lute on its Receiver, and give it the firſt Degree of Fire till the Retort is throughly hot; then increaſe the Fire to the Second, in which keep it two or three Hours (according to the quantity of Lice) and ſome Liquor will drop into the Receiver, and the Volatile Salt will begin to riſe; increaſe

creaſe it to the Third and Fourth Degree, till the Receiver grows cool; then ceaſe, and take off the Receiver, where you will have Spirit, Oil, and Salt, which you may ſeparate and Rectifie apart; or put all together into a long Neck'd Matras, Luting on its Head and Receiver, and ſeparate the Salt by Sublimation, as you do that of the Vipers.

Its *Operation* is Diaphoretick and Diuretick.

Its *Doſe* from ten, to fifty or ſixty drop.

Obſerv. You may make the Tincture and Eſſence of them in the ſame manner, as you are directed, in the following Chapter of Ants.

CHAP.

CHAP. V.

Of the ANT.

THis is a wiſe and Induſtrious Inſect, making Proviſion in the Summer, for their ſupport in Winter, obſerving a regular Diſcipline in their Labour, Regimenting their Number, and as it were conſtituting Officers over thoſe that are appointed to work, to ſee its performance.

I have with delight and wonder obſerved them to Iſſue out of their Neſts in order, and when loaded with Proviſion, returning in a continued Line, without joſtling thoſe which have diſburthened themſelves, and are marching out for more Stores. This Labour they perform in the Full of the Moon, and reſt in the New.

They are Black, or Reddiſh, the Male wing'd, the Females not; in the Winter they breed Eggs and Worms, which in the Summer become Ants; thoſe which breed under Trees, and ſmell ſowr, are accounted beſt: They are ſaid to Provoke Venery, and Create Courage; They uſe their Eggs to reſtore Hearing.

Spirit

The Spirit, Oil, and Volatile Salt of Ants.

TAke what quantity of Ants you pleaſe, put them in a long-bodied Retort, or an uncut Cucurbit; let not the Veſſel be above half fill'd with the Inſect; fit a Recipient, and Lute the Joint well; give gradual Fire, as you did to the *Millipides*, and in all things proceed as in the Diſtillation and Rectification of them.

The Tincture of Ants.

TAke what quantity of Ants you pleaſe, put them into an un-cut Body, and put upon them ſo much Oil of Nitre, *per deliquium*, as will cover them; let them ſtand in a gentle Heat of Digeſtion five or ſix Days, in which time they will be diſſolved; towards the end of which you may increaſe the Fire three or four Hours to make them boil; then let them cool, and pour upon them three times their weight of Spirit of Wine; ſtop the Body with a ſmall Matras, and Lute the Joint well; let it ſtand

stand in a good Digesting Heat till the Spirit is well tinged; let that cool, and pour it off; put on more Tartaris'd Spirit of Wine, and set it again in Digestion, till it has also acquir'd a Tincture, which will be in two or three Days time; Decant that Tincture to the first, and put both into a Cucurbit, Lute on its Head and Receiver, and in *Balneo Mariæ* draw off two Thirds of the Spirit of Wine; that which remains in the Cucurbit let cool and settle, and by gentle Inclination pour the Tincture into a clean dry Vial for Use.

In Vertue it exceeds that which is attributed to the Creature in every respect.

Its *Dose* is from ten, to sixty or seventy Drops, in a Glass of Canary, or Wine and Water.

The Essence of Ants.

DIssolve Ants in Spirit of Nitre, in the same manner as you did the Vipers, Skimming off the Froth and Decanting it from the Fœces; to the clear Dissolution of four Ounces of Ants, put of its Rectify'd Oil four Drachms, which drop

drop in by half a Drachm at a time; then put alſo, by a little at a time, two Oun. of its Salt; when all is mix'd, and the Ebullition ceaſed, ſhake them well, and ſet them in a very gentle Heat of Digeſtion fourty eight Hours, in a Circulatory Veſſel; then, by gentle Inclination, pour off the Diſſolution from the Fœces, into a clean Cucurbit; to which alſo put ſo much fix'd Nitre in Powder, by a little at a time, till no Efferveſence appears; let them ſtand cool and quiet, and in a few Hours they will be ſhot into a renovated Salt Peter: If any Liquor remains with the Cryſtals, pour it off into a clean Cucurbit, with its Head and Receiver, and in a very gentle Warmth dry it; likewiſe dry gently that Precipitate, which the Spirit of Nitre let fall, when it imbrac'd its own firſt Salt.

Then put the renovated Nitre, Precipitate, and the Reſidence of the Liquor which was Evaporated, all together, grind them in a Glaſs, or Marble Mortar, put them in a Matras, pour upon them one Pound of Tartaris'd Spirit of Wine, invert a ſmall Matras, and Lute the Joint well, and let it ſtand in Digeſtion three or four Days, ſhaking it every Day once or twice, then let it cool and ſettle, and Decant off the Tinged Spirit, and to the Matter remaining, put another Pound of Tartaris'd Spirit of Wine; let it ſtand as before, to Extract more Tincture, and

ſo

ſo proceed, till it gives no colour to the Spirit of Wine. Then put all the ting'd Spirit into a Cucurbit; Lute well on its Head and Receiver, and in a gentle Heat of *Balneo* draw off three Fourths of the Spirit, which keep well ſtopt, for any ſuch like Operation hereafter.

That which remains in the Cucurbit let cool, and pour it into a clean Bottle, which keep well ſtopt for Uſe.

This is the moſt Excellent Medicine which is Prepared of this Induſtrious Inſect.

Its *Doſe* from ten, to ſeventy or eighty Drops.

Obſervations.

Observations.

Rectificat. of the Oil and Salt. AFter you have separated the Salt by Sublimation, put the Oil and Flegm remaining in the Matras into a Retort, with a long Body; rinse out as much as you can of the Oil which adheres to it, till it is above half fill'd with Water; place it in a Sand Furnace, and give it gradual Fire till the Water and Oil bubble a little; but take care it boil not over; for then your labour will be lost.

If you put a quarter part of *Spir. Nit. Dulcis*, to that of the Oil in its Rectification, it will render the Oil more pleasant, and no way hurt its Vertue.

The Tinct. of Ants. If the Oil of Nitre be very strong, the Spirit of Wine will not mix with it, but will swim upon it, as Oil doth upon Water, and will only prey upon the Animal Sulphur opened by the Oil; remember to shake them often while they stand in Digestion.

The Essence of Ants. Place the Vessel in which you make the Dissolution in such a place where the obnoxious Fumes may Evaporate without offence, and continue it there, after you have

have Decanted it from its Fœces, till you have charg'd it with the Volatile Salt and Oil of the Insect, and also with its own fix'd Salt; then set it in Digestion, as the Process directs.

CHAP. VI.

Of Spanish Flies.

THEY are a sort of Beetle, of a golden greenish Lustre, produced from a Worm like a Caterpiller; they breed of a Moisture proceeding from Wheat, the Leaves of Ash, and Poplar. The best are found amongst Wheat, and in Meadows: They abound in *Provence* and *Languedock*, from whence we are chiefly supply'd.

They are Hot, and very Corrosive, seldom us'd inwardly, without good Correction.

The Essence of Spanish Flies.

BRuise four Ounces of Cantharides, put them into a Cucurbit, and pour upon them, by a little at a time, twelve Ounces of Spirit of Nitre, and let them stand in Digestion twelve Hours; then with a Glass Spoon, or Spatula, take off a black Scum from the Surface of the Spirit, which cast away; pour gradually upon them one Pound and half of Tartaris'd Spirit of Wine, mix them well by shaking, and place them in a Sand Furnace; Lute on a Head and Receiver; kindle the Fire, which gradually increase to the Second Degree, and in that Heat draw off a Pound and half of Spirit, which keep by you for farther Use.

To that which remains in the Cucurbit, put (by a little at a time) so much fix'd Salt Peter, as will Satiate its Acidity, which you will know by the Ceasing of its Ebullition. Then put that Mixture into a Glass or Marble Mortar; put to it one Ounce of Refin'd Camphire, and grind them till they are well Incorporated, and return them again into the Cucurbit; rinse out the Mortar with some of the Spirit of Wine which you drew off

off from them, which pour into the Body, with the remaining part of the Spirit of Wine; ſhake them well, and ſet them in a Heat of Digeſtion; make the Cucurbit a Circulatory; Lute the Joint cloſe, and let them ſtand in that Heat eight or ten Days, ſhaking them well about every Day; then let it cool, and ſtand to ſettle; pour off the Tincture into a clean Cucurbit, and in a very gentle Heat draw off one half, or more, of the Spirit, which again put upon the Mixture, to Extract more Tincture; and when that Spirit is again Tinged, draw off two Thirds, which put the third Time to Extract more Tincture, and Diſtil as before, ſtill putting the Tincture remaining after Diſtillation of the Spirit, to the firſt Tincture.

Then take one Drachm of Ambergreeſe, half a Drachm of Musk, and two Drachms of white Sugar-Candy; grind them very well together, with a little of the Spirit laſt drawn off; pour them into a Matras, and to them put four Ounces of the aforeſaid Spirit, cloſe the Matras well, and ſet it to Digeſt four or five Days; then put it to the Tincture of Cantharides, alſo in a Matras, and let them Circulate together four or five Days more; then pour it in-

to a clean dry Bottle, which keep well ſtopt for uſe.

It is accounted a great Cordial, and really is endu'd with that quality which is attributed to the Eſſence of Satirion Root.

Its *Doſe* is from ten to one hundred Drops, in a Glaſs of Canary-wine, or any other Vehicle which better pleaſes the Patient.

Obſervations.

Observations.

THat you make the Dissolution in a place where the Fumes may freely ascend without Annoyance to the Operator; the same Care must be taken in mixing the Spirit of Wine with that of Nitre; and also the same Caution ought to be us'd in putting the fix'd Salt of Nitre to its Spirit.

The Camphire absorbs the Corrosive Quality of the Fly; and the Fix'd Salt of Nitre Satiates that of the Spirit, so that there is no need to fear any ill consequence from either.

The Dissolution Subtilizes the Fly, and Corrects all its Poisonous Quality.

The Discharge of the dissolv'd Particles, by the Fix'd Salt, renders it fit to yield its Essential Being to the Spirit of Wine.

F I N I S.

THE fore-going Preparations are divided into two *Courſes*, which I deſign to perform once every Year, ſo long as God ſhall enable me; The Firſt beginning about the Tenth of *April*, and the other about the Tenth of *September*. And therefore thoſe Gentlemen who deſire to ſee the ſaid Courſes, with the whole Dependancies thereof, may be Accomodated for two Guineas and an half, paying one Guinea entrance, by the Firſt of *April* or *September*, and the reſt at the beginning of each Courſe.

And if any Gentlemen, to the number of Four or Five, deſire to ſee ſuch Proceſſes as they will conclude of in the Intermiſſion of my Courſe, they may be Accomodated for one Guinea a Piece, and taking off the Preparations at a reaſonable and common Price.

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